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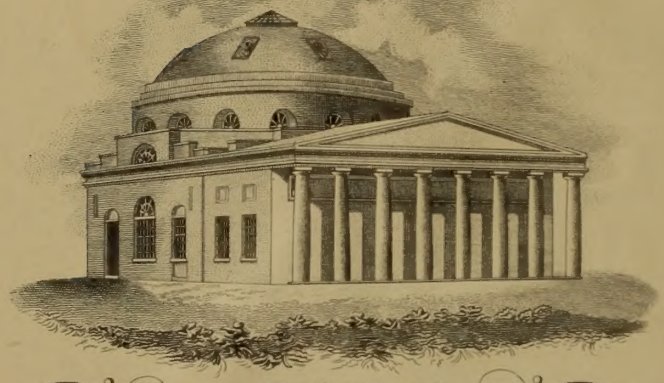

University of Maryland

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Dissertations of Ralph Ogden Tapper

Early Doctor of Medicine and Doctor of Dental Jurisprudence, with Centennial Table of Contents

These manuscripts described Dr. Tapper's Dissertation, or its Inaugural Thesis, were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Dental Jurisprudence during the years 1843-1847. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in pagination, across which, and/or years. To address these errors, an additional "Centennial Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were: Richard J. Dorfman, Historical Literature Preservation Officer, Alison McLaughlin Fenton, Manuscripts Management Librarian, Angela Cochrane and Carol Darling Henry, Reference Division, Sarah Hunter, Alice Sumner and Megan Wolff, Technical Services Division.

These dissertations were digitized in 2013-2017, and are available at the UM Digital Repository (archive.hdl.net/myhandle.net) and the Internet Archive (www.archive.org).

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were Richard J. Behles, Historical Librarian/Preservation Officer; María Milagros Pinkas, Metadata Management Librarian; Angela Cochrane and Carol Harling-Henry, Resources Division; Sarah Hovde, Abra Schnur and Megan Wolff, Services Division.

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(CORRECTED TABLE OF CONTENTS)

UNIVERSITY OF MARYLAND

THESES

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Wells, Thomas W.	Dysentery
Dorsey, Hanson	Mania
Weems, Stephen D.	Phrenitis

1- Text lost in inner margin during binding process.

HSHSL 2011 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1821-1851; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

2- Noteworthy calligraphy on title page.

Green, Triplett C.	Scarlatina
Tyler, Grafton, Jr.	Phthisis Pulmonalis
Worthington, William Henry	Causes of Sudden Death and the Means of Preventing It
Wampler, Gustavus E.	Injuries of the Head

HSHSL 2011 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1821-1851; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

UNIVERSITY OF MARYLAND

THESES

1833 (b)

Murphy, Dennis	Yellow Fever	22p.
Campbell, James B.	Physiology of the Eye	20p.
Magruder, Edward A.	Mercury	27p.
Perkins, Joseph F.	Fever	16p.
Griffith, Lycurgus E.	Antimony and Its Preparations	24p.
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Isaacs, Charles E.	Function of the Spleen	33p.
Smith, ~~Otte~~ Otho J.	Chlorosis	27p.
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~~More~~ Maris, George W., Jr.	Obstetriciis	23p.
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An

Inaugural Dissertation

On

Yellow Fever.

Submitted to the examination of

The Provost the Trustees and

Medical Faculty of the

University of Maryland

For The

Degree of Doctor of Medicine

by

Dennis Murphy of Maryland March 1st 18

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The Yellow Fever, is a term which has been applied to express a particular form of a febrile disease, which has been observed to prevail in the West Indies, along the shores of North America, particularly at New York and Philadelphia and more lately in the southern parts of Spain. It has received various names by some it has been called the Maladie de Siam; by others the Bulam Fever. Though justly accounted among the endemics of hot countries, it has yet principally excited attention from having prevailled epidemically in those regions, and been productive of very great mortality in particular seasons. The endemic fevers of the West Indies, like those of other countries are either such arise from marsh effluvia, or from what is called common causes, cold, alternatives of atmospheric temperature, or insolation; that is to say, they are either intermittent, remittent, or continued. In almost all the controversial writings on the yellow fever, these different forms of febrile disease have been confounded together; and it has

Accordingly been, from want of precision in the naming and classing these fevers that some of the disputed points have originally sprung. But there is a second general cause to which the controversy may be referred, whose influence is even yet more extensive than that of error in the classification of fevers; I mean, a want of correct knowledge of the general laws of contagion. The consequence of this has been, that the analogies and distinctions of epidemic and endemic disease has been overlooked or misrepresented. It is hopeless to attempt to reconcile the discordant opinions of authors on the yellow fever, if these fundamental doctrines are still made matters of dispute. To every man of accurate observation possessing the capacity of discrimination, the rise and progress of the three epidemics of 1794, 1797 and 1820 as they appeared, in Baltimore, would alone be sufficient to establish the domestic origin and non contagious character, of yellow fever

The disease was exclusively confined to the low grounds covered with the materials of putrefaction, or to those parts composed of factitious materials, corruptible in their nature. In that part of City west of Jones falls, was the line of demarcation between the pure and deleterious atmosphere, was obvious to the most superficial observer. In 1797 an occurrence that demonstrated the locality of the infected atmosphere so clearly, that it wrought conviction in some of the most septical of the citizens of Baltimore. Previous to the 17th of September the fever had been confined to the places already described, and to such as had breathed the air evolved from them: on that day a strong S. E. wind wafted the pestilential effluvia in a N. W. direction, and diffused it among the inhabitants of the upper parts of Frederick, Gay, South, and Calvert Streets, who became immediately implicated in all the horrors inseperable from so malignant a fever. In 1811 several concurrent facts were noted and the principal

Became so familiar, that the increment of cases was calculated, with tolerable accuracy, by observing the variations of the winds. No case of the yellow fever ever did originate in West Baltimore above Hanover Streets, beyond the sphere of exhalation from the docks, wharves, or made grounds, one of the principal deceptions respecting contagion, arises from the fact of the disease having occasionally originated on Ship board. The confined state of the holds of vessels, is unquestionably well adapted to the generation and concentration of noxious effluvia. Several causes conspire to render such a condition the focus of pestilence. Improper ballast perishable by putrefaction, as well as cargoes subject to chymical decomposition; and perhaps, the accumulation of animal excretions above the bodies of the crew in warm latitudes especially when combined with others sources of putrefaction may operate as the remote cause of yellow fever. See narrative of the yellow fever on board the

United States Ship General Green by Doctor Kollock, In June 1789 furnishes an instructive lesson on this point. The ship was new, and sailed from Newport, Rhode Island on her first cruise. on the 3d of June, as she had been caulked in winter she became leaky, and thus damaged more or less, every thing liable to putrefaction on board. The ballast was composed of Iron, slate, and clay interspersed with marine vegetables. The provisions became contaminated and the fish, which made a part of them were thrown over board. The air between decks became so vitiated, that it would not support combustion, a candle would scarcely burn in the cockpit. The disease commenced on the 18th of the month, and its tragic end is well known. The fever did not exist at Newport before the Ship saild, and she touched no where, neither boarded; nor had communication with any vessel till she arrived at Savannah, after the eruption of the disease. It became

Cessary, in this disable condition of the crew
to return to the United states; and, on the
7th of July, the Frigate arrived at Newport.
She was subjected to an entire unlading; the
sick, with all their clothes were sent to the
Hospital; neither the citizens who could not be
entirely excluded from intercourse with the
crew, nor the attendants of the hospital contract
d the disease;
We admit that Sir Gilbert Blane is the ablest
advocate of the doctrine of contagion who has
publicly appeared; but after the most scrutiniz
ing examination of his reasoning we are oblige
conclude, that his arguments are inconclusive
of this broad assertion we may howeer presumptu
as it may appear to some) that we have else
where refuted his reasons by anticipation.
The remarks of the author that there exists
remarkable difference of opinions among
those equally qualified to judge, is very far

From being the result of a general understan-
ding among professional men, of those whose
clinical observation has been the basis of their
creed, not one in forty inclines to the doctrine
of contagion in our country, and as to our opinion
on of such as have not seen the disease it
merits no more respect, than those of the nat
list who should undertake to describe the
production of a region he never saw.
We agree that a want of correct views of
Pathology is one of the sources of difference
of opinion as well as much error, and on
his admission will endeavour to show the falla
of the opinions adopted by opposition. The
appellations bestowed on the disease, are suffic
iently expressive of the defective state of its
Pathology. The epithet yellow is only inciden
tal, It is to be observed only in the worst cases.
or in those that have been neglected or imper
erly treated, If the proper system of depletion

Be opportunely and sufficiently applied this appearance is not to be seen, Synochus Petroides is name still more unfortunate, because it presumes to fix the degree of fever, a power which no nosological title can confer. It may measure the type and detail symptoms, but can not tell the quantity of disease; the fever consists of all degrees) according to the condition of the nerves of the subject, from the most fervid as synocha to typhus gravior, and are successfully treated by the remedies for those states, though generally by evacuations. All the names given to this disease are founded on some accident and precarious accident. The existence of the disease at Siam or Bulam only proves it the product of warm climates, but does not prove it contagious. Almost every symptom of the fever has given it a name according to the fancy of some one who has seen it. It has been called by the Spaniards vomito Prieto, the black

vomit, although it is only an incidental concomitant. It is clear it cannot be pathognomic because free and early evacuations generally obviate such a termination: and for another reason, because many die of yellow fever without this symptom: with and without medical aid the affection of the brain kills some, the condition of the liver some and inflammation of the duodenum and consequent sphacelus others. The yellow fever is not reproduced like the small pox and measels by a matter generated by the sick. Because inoculation with the saliva, with the serum of the blood, and the black matter of the stomach does not produce it: this fever in hospitals in the country, where physicians and others breath the air touch and even handle the sick, is not communicated: mothers ill with this disease sleep with their children, also parents and friends under the same circumstances do not in a country

cio communicate it. If however, these diseases be protracted, till it assumes the typhoid form, the excretions and perspiration will reproduce that form; as in all cases of fever, the disease will then be typhus and not the yellow fever, as the yellow fever ends rapidly either in death or recovery; typhoid symptoms hardly ever appear: on this account the disease seldom becomes infectious. Heat moisture and putrefaction from any cause may produce the yellow fever; on this account, the clothes and excretions of the sick, in unventilated places sometimes though very rarely produce it; the excretions of the well under the same circumstances would have the same effect, as there is peculiar matter generated by the sick in this disease: From the shortness of its duration, typhoid symptoms more seldom appear in it than in common remittent fever; it should therefore, be considered as less likely to be contagious than almost any

Other forms of fever. Putrefaction is the cause of yellow fever, because, the fever increases and declines with the summer season, which produces putrefaction the same case; as; frost: intense dry heat; high winds from the north: lasting, heavy inundating rains: the destruction of putrefying materials by fire: or water which arrest the yellow fever.

The attack of this disease is generally sudden and with a chill: there is violent pain in the head, back and limbs: there is great prostration: almost immediatly succeeded by vomiting, red eye, suffused and tumid face; the parts about the fauces and throat are so likewise, the patient speaks thick, as if his toung was too big for his mouth, very much like an intoxicated man, the skin is arid: the heat burning, pain in the head acute and fixed, above the orbits of each eye, with a sense of weight in the whol head, and difficulty of speaking.

There is a fixed burning heat at the pit of the stomach, with anxiety and restlessness, ontinual and distressing vomiting and loss of ppetite: large drops of sweat hanging on the face. he tounge is generally moist and morbidly clean; ore red than in health with a peculiar expre ion of the face. High and fierce delirium nerally comes on about the second day, the pa ient requires two or three persons to hold him d, the eyes seem to burst from their sockets: rolling bout with a fierce expression, death closes the cene on the third or fifth day, the fever subs ing and the senses returning some little time fore, the eye now becomes glassy and is no longer d, the skin moist and cool: the vomiting ceas , the pulse full, syncope or convulsions, are last nd fatal symptoms the former particularly in he most violent form. When it attacks delicat persons, the fever is not so high, there is often o delirium, the vomiting is also more mild;

The matter thrown up undergoes a gradual change at first the remains of the last meal, then mucus, the contents of the stomach we streak with brown, then comes the black fluid like grounds of coffee thrown up without difficulty, and without smell or taste, except ng bleeding from the nose, this is the most fatal symptom: Hiccup and diarrhoea are also dangerous, Professor Potter thinks deafness un favourable, the fever comeing on after a fit of anger, excess of venery, terror, or strong drinks, the first fit without a chill, or any premonitory sign, a coldness over the body for two or three days, and without chills, sleepiness on the first or second days, uncommon paleness of the face, and not induced by venesection, constant vomiting without discharges of bile: obstinate costiveness, or a discharge of natural white stools which watery stools after taking drinks, diarrhoea towards the close of the fever, a suppression of

Urine, most alarming when without pain; a discharge of black coloured urine; a cold dry smooth shining skin, a yellow face on the second or third day; no pain, or a sudden cessation of it; a disposition to faint upon very little motion; watery glassy, or brilliant eye; a red eye on the fourth day of the disease more alarming after being yellow; imperfect vision, and blindness in the close of the disease, a preternatural appetite in the last stage; a low, intermitting and shattered pulse, great restlessness, delirium, coma, and black vomit, after the fourth day a smooth red tongue, covered with a lead coloured crust, insensibility to common occurrences; uncommon serenity of mind and placid countenance, all these are unfavorable symptoms, signs of moderate danger, a chill accompanying the disease, the longer its duration the more favorable is it, the recurrence of chills preceding the fit every day, or twice a day favorable, a coldness of the whole body without chills coldness

With a profuse sweat, cold feet and hands
with febrile heat, a profuse sweat without a
chilly fit, indicating however less danger, than
their total absence during the course of the fever
The usual duration of the yellow fever is from five
to seven days. If the patient passes the sixth day
without the occurrence of black vomit or supp
ression of urine his chance of recovery is much incre
sed, but even symptoms like these of common
typhus occasionally supervene and prove fatal.
Relapses in this fever is very rare. Upon disse
tion, very few appearances present themselves
which can be considered as throwing light on
this disease. The body has been observed to become
speedily livid, yellowness of the skin has sometimes
been first noticed to occur after death. A state
of turgescence of the cerebral veins has been descri
bed, and occasionally there has been a peculiar
redness of the inner coats of the stomach observed
The gall bladder is generally found distended with

Dark and viscid bile, the liver assumes an ash colour, Dr Cartwright found the ganglia, their vesting membranes, and nerves which issue from them, more particularly the semi lunar ganglia eliac and solar plexuses, of a scarlet and sometimes a black colour, The psoas muscles and the iliacus internus were black and easely torn, the pia mater he brain were often, and duodenum except in two ases were always inflamed, the liver was generally ore or less diseased, The stomach was also mostly flamed, the coats of the organ, where no inflamation was found tender, and easely torn, Inflamation of the stomach an duodenum, is not the ecasional, but most frequent symptom of the isease, The red eye, the inflamed stomach, the black vomit, and sometimes the orangecoloured kin, are the symptoms most commonly seen in this orm of fever, and almost invariably attend it The treatment of the epidemic yellow fever is a oint which has attracted great attention from all

blasses of enquiries. From the description given
by Fowle, it appears that the disease is frequ
ntly, when very violent, a variety of Phrenitis.
he remedies advised in the treatment of Phrenitis
nd Hydrocephalus is applicable in this stage.
epleting the system by cold water poured on the
ead, suggest itself, as the most appropriate. the
emedies should be continued as long as there is
y stupor or redness of the eye. From the dissections
Fowle, who saw the disease in its most acute form
a low latitude, there was but little disease of
he stomach; the morbid appearances were
found after death to exist in the turgidity of the
essels of the brain. Bleeding and Calomel must
e considered our main stay in this disease.
n this subject however there is a contrariety of
xperience. Drs Rush, McClean, Dickson, Bancroft
have succeed with venesection performed on the
second day of the disease. Dr Jackson advises
t to be taken in large quantities, even to the

extent of thirty ounces, it prepares the system
for the cold affusion, which it also renders more
licacious he prefers one large bleeding to repeated
mall ones, as the best means of arresting it, natives
a northern latitude when attacked in a southe
n one, requires copious and early venesection,
articularly the robust, the young and plethoric
he acclimated do not bear venesection well, nor
o the natives of hot climates: In the United
tates, much therefore will depend on the prev
ous winter, if cold and bracing, and if the
tuation be generally healthy the persons attack
d in the summer are more likely to require
bleeding than otherwise, but this is a matter of
xperience in all wide spreading malidies, as
heir character varies with the season actuaral
rial is the only certain test of the efficacy of
ny plan, when venesection is proper it allays
he fever and arrests the disposition to local
inflamation, favours the opera of the medicine

The bath or fumigatives arrest the progress of the disease and hastens recovery; it also prevents the supravention of Dropsy and other disorders of debility. The blood exhibits every variety of appearance in this malidy and varies from the dissolved up to the buffy state. In employing it however it is necessary to guard against its excess as it hastens the third or typhus stage. The practice of Dr Cartwright of Hatchey is peculiar in this disease. Instead of bleeding immediately, he thinks that in this first stage or that in which the heat is unequally diffused, sensation impaired and secretion suspended, or in other words, whil the reaction was crippled and weak, emetic he found to have a excellent effect, in preparing for venesection; and hour would elapse before the system appeared to feel the impression after taking the emetic. the irregular feeling of heat and cold and prostration

throughout the system, gradually yielded
to one of heat only. the heat of the skin
became uniform, great distress would ensue; the
nausea retching, and at length full vomiting
first of phlegm then of bile, the system seemed
to succumb under the violent struggle, and
after the vomiting became easy, a short
sleep followed reaction and general fever
took place, which was accompanied with
a hot skin, violent pain, a full tense pulse
with excessive misery. Tartar emetic given in
the dose from three to ten grains every one
two or three hours dissolved in a small quantity
of water, operates as a most powerful stimulous
rousing the organs from a state of palsy, with
a slightly irritable stomach in the first
stage, to a stage of open fever with a hot skin
and hard pulse then bleeding and perspiration
is found useful in allaying the excitement
which the Tartar emetic produced, then

Step in with the calomel and push it to salivation and the patient will be saved. Dr Rush preferd Jallap in combination with calomel. but Professor Potter uses the calomel alone.

The last circumstance which it is of importance in the history of the yellow fever and the laws of its contagion is the question whether it can be taken a second time. The answer is a very short one.

A note of Professor Potter's

The annals of our country put this at rest. It is true. that in countries uniformly hot the disease is seldom observed to occur more than once in the same subject. but in all countries where the winters are cold, we find very litte difference in the susceptibility to the cause. The emigrants from St. Domingo were exempt from the yellow fever of 1797 and 1810 in this

bity (Baltimore) but in 1819, 1821 they
suffered as much, cæteris paribus, as any
ther variety of the human species,
he attended more than a hundred persons
a second attack, Twenty one in a third
ven in a fourth, Three in a fifth and
e in the eighth attack of yellow fever
lfessor Potter thinks this disease nothing more
than a violent bilious remittent fever arise
from Malaria, — — — — —

An
Inaugural Thesis
on the

Physiology of the Eye.

Submitted to the Provost, Trustees
And Professors
in the Medical Department,
of the

University of Maryland.

for the Degree of Doctor in Medicine

by Lick

James B. Campbell
of Virginia —

March 11th: 1833.

Inaugural Thesis

Eye — The function which enables us to perceive the magnitude, figure, colour, distance, &c. of bodies. The functions of the eye are divided into three parts, first the light is modified by the humours, second it receives an impression of the light on the retina — the third transmits this impression to the brain through the optic nerve. The apparatus of vision is an extremely delicate texture, capable of being deranged by the least accident — Nature has also placed before this apparatus a series of organs, the use of which is to protect and maintain it in those conditions necessary to the perfect exercise of its functions. Those protecting parts are the eyebrows, the eyelids, and the secreting and excreting apparatus of the tears. The eyebrows have many uses. They project and protect the eyes from external violence, they also prevent perspiration from

running into the eyes, and guard them against too strong a light. The nictitating membrane situated at the internal or nasal angle of the eye has no motion in some animals, in others it has very considerable, as in the eyes of owls &c.

The eyelids must when closed considerably be low the transverse diameter of the eyes. the cilia or eye lashes are placed very thick on the edges of the eyelids - the skin of the eyelids is firm and semmi transparent - The action of the orbicularis palpebrarum closes the eyelids. a firm cartilage placed on the edge of the eyelids keeps them to their proper situation - The eyelids are of a cellular texture very firm but contain no fat - The eyelids cover the eyes in sleep, defend the eye from shocks by suddenly closing, and by winking prevents the effect of a long contact with the air - They contract or enlarge according to the intensity of the light - The meibomian glands are from thirty to thirty six in number in the edge of the upper

eyelid, and from twenty four to thirty in the lower. They contain a matter essentially albuminous, the use of this matter is to favour by being spread over the eye, the friction of the eyelids upon it. The apparatus for the secretion of the tears ~~are the~~, is composed of the lachrymal glands, the excretory ducts, the carunculæ lachrymalis, the lachrymal ducts, and the nasal ducts. Before we speak of the secretion of the tears, let us observe that the use of the conjunctiva is to protect the surface of the eye, it is a good absorbent, and even poison may be received into the ~~eye~~ system by being absorbed by the conjunctiva. It secretes matter for the lubrication of the eye. it is a mucous membrane and like all other mucous membranes is easily inflamed. Tears are not so abundant in the healthy state as in the diseased state, they are supposed to be composed of water and muriate ~~and~~ or phosphate of soda which gives them their acid taste. It is a question how the tears are conveyed from the

external to the internal angle of the eye, the tears will certainly take the course where there is the least pressure - and it appears that that part is at the joining of the conjunctiva to the eyelids - The secretions from the conjunctiva serve as a coat to the eye, and gives brilliancy to the eye - some of the tears are evaporated what remains are conducted into the lachrimal sack and through the nasal duct into the nose - The coats of the eye are the sclerotic which protects the posterior portion of the eye - it is wanting in front and its place is supplied by the cornea - The choroid coat, the retina &c. The Iris is of various colours in different individuals, it is perforated by a hole which can be enlarged or contracted according to the intensity of the light - this is called the pupil - The cavity of the eye contains three fluids, the aqueous humour, the chrystalline lens, and vitreous humour - The aqueous humour is perfectly clear and occupies the space between the cornea and chrystalline lens - The crystalline lens is situated immediately

behind the iris. it has two convex surfaces, of which the anterior is the less, and the posterior surface the more convex, its posterior part is imbedded in the vitreous humour. It resembles a lens in shape but not in structure, for it has different concentric layers which become more and more firm as they approach the centre of the lens. It is surrounded by a very thin capsule to which if it adheres at all it adheres very slightly. the use of the crystalline lens is to transmit and refract the rays of light. The vitreous humour is situated in the posterior part of the eye. it is contained in a capsule called tunica hyaloidea. it fills the whole bulk of the eye behind the crystalline lens. The vitreous substance is composed of small cells which communicate with each other, and are distended with a transparent fluid. its use is to converge the rays and thus render the focus of the rays more perfect. We will now speak of the eye in action. The rays of light emanate divergingly from all points of a body

some of which pass into the eye, we suppose that only one ray of light passes directly through into the eye and that all others fall obliquely upon it - of those rays which fall upon the external portion of the eye, those alone are useful to vision which fall on the cornea - nor are all the rays useful to vision which fall on the cornea - because from its high polish many of the rays are reflected - This reflection forms the image which we observe behind the cornea in looking closely at another eye - The cornea slightly increases the intensity of the light in passing through it, for it is so thin that it refracts but little - We will suppose then then that the ray enters the aqueous humour immediately from the atmosphere - the aqueous humour being more dense than the atmosphere, refracts the ray towards the perpendicular - of the light which passes through the aqueous humour, all does not pass through the iris, the iris decomposes part and absorbs part and reflects the remaining colours which gives

the black, blue, or other appearance to it, That part of the light which passes through the hole in the iris is alone useful to vision - In coating the posterior chamber of the eye the medium remaining the same, the ray of light receives no modification - The ray now passes into the crystalline lens - The crystalline lens answers the purpose of an achromatic glass depriving the rays of colour which the aqueous humour might occasion The lens is not essential to vision, though it is to distinct vision, it serving to answer the purpose of rendering the rays colourless - In performing the operation for cataract the crystalline lens is sometimes entirely removed yet an image may be formed on the retina tolerably correct though indistinct -
In passing through the crystalline lens the ray is also refracted - This crystalline lens as we have before said increases in density as we approach the centre of it The rays then passing through the centre, pass through a dense medium which may have some effect upon them - A part of the light which falls on the

lens is also reflected, a portion of it is caught by the posterior part of the iris and absorbed by the pigmentum nigrum,- Magendie says that some analogous reflection takes place at every layer of the crystalline lens- The ray of light now passes into the vitreous humour- the vitreous has less refractive power than the crystalline; the rays must then vary from the perpendicular according to a law already mentioned but this variation in consequence of the convexity of the lens causes the rays to bend more toward the axis of the eye- The vitreous is useful in affording a great extent to the retina- The light which passes perpendicularly into the eye or according to its anterior posterior diameter is collected in the centre of the retina- the other rays go to other parts of the retina according to the form of the objects from which they proceed- It is a remarkable peculiarity in vision that images are formed on the retina in an inverted position, this may be illustrated by ~~illustrated~~ removing all the coats

from the back part of a fresh ox's eye and placing a piece of paper over the portion left bare. the consequence will be that an inverted image is observable on the paper if any body is held before the eye and illuminated - Mechanism of the Iris - some assert the motion of the Iris to be performed by muscles - Haller considered the motion of the iris to be the effect of sympathy occasioned by the light falling on the retina - others assert that their motions are performed by radiating and concentric muscles - some animals as the Parot can contract the iris at will which goes to prove that the motions of it are muscular - when a very bright object is presented before the eye the iris contracts to exclude the intensity of the light which might injure the eye - When an object but little luminous is presented the iris enlarges to receive a larger portion of light - (What is here said of the Iris enlarging and contracting is meant of the hole in the Iris or Pupil The enlargement and contraction is confined within

small limits; but distinct vision is within narrow limits. There is a power about the iris of preventing any diverging rays from entering the eye and causing indistinct vision — The Choroid coat is useful as is supposed by some for absorbing the light by means of the pigmentum nigrum which covers it. If the ves=sels of the Choroid coat become enlarged the pigment=um nigrum is absorbed and the images are ren=dered spotted with red by falling on the parts des=titute of the pigmentum. Some animals see in the full light of day and hence called diurnal. others see in the night hence termed nocturnal. In the former animals the pigmentum is black, in the latter it is of a grey or light colour or there is none at all. as is the case with cats. yet cats see remarkably well in the dark. some even suppose that a portion of the eyes of cats is of a phosphor==escent nature. It has been made a question whe=ther the impression of a ray of light is made at the time of its passing through the retina or of being

reflected from the choroid - - Ciliary Processes - - Some
aspect that they are to move the iris - others to adjust
the crystalline lens & others to secrete the Pigmentum ni
=grum and a portion of the aqueous humour. though
some animals are found possessing no ciliary processes - The
fact is their use can not be satisfactorily expla=
ined - Action of the Retina - The retina is supposed
to be an expansion of the optic nerve - it forms the
innermost coat of the eye - it proceeds forwards
between the choroid coat, and the capsule of the
vitreous humour, without adhering to them, and
terminates at the greater diameter of crystalline
lens - The retina is of a vital character, though
we know not by what means it operates - It re=
ceives the impression of light within certain limits
of intensity - if the light be too strong it occa=
sions dazzling - After coming out of a dark apart=
ment a small light even that of a candle pro
duces dazzling - If the light is excessively feeble in
examining an object, the eye and indeed the whole

brain becomes painful in consequence of the fatigue of the retina - An intense light acting for a while on one part of the retina renders that part insensible for a time to the rays of light coming from less luminous bodies, the parts at rest become more sensible from it — The centre of the retina seems to be endowed with more exquisite sensibility than the rest - this has been proved by many experiments — We will now say something of the optic nerve - How the optic nerve communicates sensation to the brain we are ignorant, yet of its having the power of transmitting the images formed on the retina to the brain we are certain - There is a difference of opinion whether there is a decussation or a crossing of the optic nerves, or a simple joining of them only in the cranium - some late experiments of Magendie seem almost decisive of the decussation of the optic nerves, he found that when the optic nerves were cut through antero posteriorly there crossing vision was entirely destroyed.

Action of Both Eyes - Notwithstanding some have tried to prove that both eyes are not essentially necessary to distinct vision - yet it appears conclusive that it is necessary that both eyes should act at the same time in order to receive a proper idea of the size distance &c of an object - for some purposes as in discovering the direction of an object one eye only is used - for instance shooting - The refractive power of the two eyes sometimes differs, and in this case we can see more distinctly by closing one eye - In looking through a telescope it is necessary to use one eye only - for a telescope applied to one makes its focus different from that of the other - In perfect eyes the action of the rays on each retina is so similar as to produce the same sensation and form a single image - else we should see objects double as is the case with squinters - Squinters were formerly termed goggle-eyed and the inconvenience attending their vision arises from the axis of both eyes not coinciding in

viewing an object - If both eyes are directed in unison on an object any intervening object will appear double - from continual habit we acquire an equal power over both eyes so as to make their axes coincide in viewing an object - May this habit may become so confirmed that we cannot turn the axes of the eyes two ways - when persons born blind receive their sight by an operation performed on the eye, at first the eye balls roll in every direction and both eyes can not be fixed on the same objects - hence they see objects double - one eye may be more disciplined than the other - Persons from their occupations using one eye only frequently lose controll over the other in a great degree - there has long been a question in agitation how it comes to pass that we see objects in their upright situation, although the image is formed on the retina inverted - a misconception in regard to this subject has arisen in consequence of supposing a picture is formed on the retina - and that it is necessary that this image should be seen - There is no picture

it is simply an impression - This impression would frequently be erroneous were we not guided ~~by~~ in our estimations of objects by the sense of touch - We would have no idea of a things being round or square did not the sense of touch come to our assistance - Light gives us ideas of the distances and dimensions of bodies - when objects are very far off we can form no just idea ~~either~~ of their dimensions or distances To display the imperfections of the vision of our eye try the experiment of the hook and ring as mention=ed by Magendie - we can judge of an object more correctly on the same level with us than above or below us. The smaller an object the nearer it must be placed to the eye to be seen distinctly, so the point of distinct vision is variable - The same object may be seen at various distances but accor ding to circumstances - The intensity of the light has a great influence on vision - How the eye adapts itself to the distance or whether it does at all has been a question among physiologists - It has been conceived that

the retina must recede or approach, or that the crystalline lens must alter in order to adjust the focal distance, - some say the sclerotic coat is useful for this purpose - though the sclerotic coat is nearly inflexible in some animals, its use appears to be to preserve the form of the eye - The sclerotica is supposed by the elasticity of its lamina acted on by the strait muscles to adjust the focal distance - but this adjustment if any such thing be must be very little - when we look to a near or distant object we seem to feel an attempt at adjustment - from the consideration that different persons have conceived the power of adjustment to be in different parts of the eye. we may conclude that it may be various in various animals - it seems probable that the focal distance is not much altered. and that the eye may not possess this adjusting power - on putting a white screen behind a prepared eye and a luminous body before a difference was observed in the size of the image, when the light was near and at

a distance, though it became more and more indis
tinct according as the light was removed from the
eye - The power of seeing objects at ordinary distances
is greatly improved by habit. We form our ideas of
size from the apparent dimentions of a body on touch
Indeed all our senses depend somewhat on the sense
of touch. It is by touch that the senses of seeing,
smelling, tasting hearing and feeling are effected. It is
not exactly the case that the dimentions of the image
on the retina leads us to a correct judgement concer
ning the size of an object. The dimentions of the im
age formed by rays proceeding from the same body dif
fers according to the distance at which the body
is from the eye. We judge of the size of bodies when
we dont know their distance from us by the angle
which the rays form at the eye in coming from
its extreme points; for we would be ~~would~~ led to sup
pose that the sun and the moon were of the same
size did not we know the sun to be much more
distant than the moon - on account of the angle

formed at the eye being nearly equal. We cannot judge well of the size of bodies which are nearly presented to our sight - the optic angle gives us no idea of the dimentions except from experience derived from the sense of touch. Thus a child before it has the experience of touch grasps at an object at any distance. We judge of the size of some bodies from the extent of the motion of the eye in viewing them. The eye perceives bodies in motion by a moving image on the retina if the body be near and moving very rapidly it cannot be seen on account probably of the motion of the image on the retina being too rapid. Nor can very small motion be seen as the motion of the hand of a watch. This may arise from the positive slowness of the hand or the slowness of the motion of the image on the retina. To judge of the motion of bodies we must not ourselves be in motion. In viewing very distant objects we cannot tell the quantity of its motion from or towards us, from the size of the image increasing very slowly. We discover according to the

law which we instinctively ~~have~~ establish of the rays of light coming directly from the object to the retina objects frequently in a direction different from their real situation - The rays of light receive some refraction before they enter the eye and hence arise optical illusions - If a luminous object be placed among unilluminated it will appear much nearer than the latter - The science of painting consists in attending to optical illusions - We may conclude that our judgements of size and distance are the result of a true education of the sense of sight - If the rays of light from the too great convexity of the humours of the eye form a focus before they reach the retina and then fall upon the retina diverginglyit is called myopic vision - If from the flatness of the humours the rays do not meet but the focus would be formed behind the retina the vision is termed presbiopic - A person who is short sighted when young may see very well in old age on account of the convexity of the humours being lessened - Long time

law which we instinctively ~~may~~ establish of the rays of light coming directly from the object to the retina objects frequently in a direction different from their real situation - The rays of light receive some refraction before they enter the eye and hence arise optical illusions - If a luminous object be placed among unilluminated it will appear much nearer than the latter - The science of painting consists in attending to optical illusions - We may conclude that our judgements of size and distances are the result of a true education of the sense of sight - If the rays of light from the too great convexity of the humours of the eye form a focus before they reach the retina and then fall upon the retina divergingly it is called myopic vision - If from the flatness of the humours the rays do not meet but the focus would be formed behind the retina the vision is termed presbiopic - A person who is short sighted when young may see very well in old age on account of the convexity of the humours being lessened - Long time

eyelids descend the ~~[illegible]~~ & eyeballs ascend, if this were not the case the surface of the eye would remain without moisture. In sleep the cornea is turned up by the obligue muscles which Mr Bell terms involuntary muscles. He terms the recti muscles by which the other motions of the eye are performed voluntary. Thus the involuntary only act when the voluntary are suspended as in the case of sleep. The drawing up of the eyelids in the last expiring moments is caused only by the approaching insensibility and not by pain. The recti muscles cease to act in consequence of the insensibility of the brain and there is nothing to prevent the action of the obligue or involuntary muscles. The causes why the aged see badly, are first, the diminution of the sensibility of the retina contributes chiefly to indistinct vision. 2nd the diminished quantity of the humours of the eye. 3d opacity of the crystalline lens ——

S. B. Campbell

An

Inaugural Dissertation

On

Mercury

Submitted to the examination

of

the Provost, the Trustees and Medical Faculty

Of the

University of Maryland

For the

Degree of Doctor of Medicine

By

Absent

Edward R. Magruder of Maryland

March 1st 1833.

To

Jerome Mudd M.D.

My late preceptor and faithful friend,

The critical Period has at length arrived
Which may elevate me to your Profession.
To you I acknowledge my esteem and
Gratitude for your polite attention and
Great exertion towards facilitating my progress
In an exalted study. and aiding me
To arrive at the threshhold of a Dignified
Profession. a place in which you fill
With a growing splendour of professional
Reputation. which is exceeded only by the
purity of your private character. To you
this Dissertation is affectionately inscribed, by

Edwd. R. Magruder

Mercury

As the preparations of mercury, are remedies very much used in the treatment of Diseases, and as this metal must merit the attention of every student of Medicine, I deem it not an unfit subject for an inaugural Dissertation.
And though conscious of my inability to do the subject justice, yet being fully aware that I can say nothing concerning this Drug save what I have taken from authors on the subject, and as it is the duty of every medical student to investigate and endeavour to learn the nature and properties of this important mineral, It may not be thought more than my duty to present at least that knowledge of it, which I have derived from limited researches, together with its modes and administration &c. But before I enter upon that part of the subject, It may be deemed necessary to say, first, something of the origin or medical history of this metal, secondly, to examine its

chemical nature, thirdly its different pharmaceutical preparations, and lastly its modus operandi, its effects upon the human system, and the principal diseases and their certain stages, in which ~~their~~ its preparations are used.

My knowledge of the origin of mercury is very limited, as it seems to be buried in considerable obscurity, at least authors seem to say but little of its origin, Lygmist also appear to be silent on this point. It appears however from such authors as I have seen upon this subject, that mercury was not known to the Greek and Roman physicians, as an article possessing any medicinal qualities, But only as a dangerous poison, and gave it no place in the Materia Medica, The Arabians appear to have been the first, who took cognizance of this metal, as affording preparations of any medicinal efficacy; they employed it as an external remedy in some cutaneous diseases. It appears to have been used externally also in some cutaneous diseases in the twelfth century, By

Gilbert Theodoric and others according to Dr Eberle. But it was unknown at least not employed as an internal remedy until the sixteenth century, when it was given internally in the plague. About the same time it was employed in Lues Venerea by Paracelsus. Mercury from this period appeared to have gained reputation as a remedy; and notwithstanding the great opposition it has been more and more correctly and justly appreciated as a remedy in the cure of Diseases, its applications being now conducted on more rational principals.

The chemical nature of mercury is next to be examined. This metal is commonly found in a native state, it also occurs in combination with sulpher, as Cinnebar, from which it may be extracted by heating it with lime, the mercury is volatalized, and the Sulpher remains. There is a peculiarity in this metal, that it retains its fluidity at the common temperature of the atmosphere, and Dr Paris says that it has even been found to

pass into a state of vapour at this temperature, It requires however a temperature of 660° F. to raise it to ebullition, nor will this metal cease to retain its fluid form, till it sinks down to 40° F. below zero - when it becomes solid. Its colour is a brilliant white resembling that of silver, hence its name - its specific gravity is 13.6 being 13½ times heavier than distilled water, Mercury is susceptible of two degrees of oxydation, by union of the metal with oxygen. These are the protoxide and peroxide of mercury. The former consists of 1 atom of mercury 200, 1 atom of oxygen 8 hence 208 its equivalent number, The latter of 1 atom of mercury + 2 atoms of oxygen, its equivalent 216. The protoxide is a black powder, commonly prepared by washing calomel with hot lime water, The peroxide is formed by the combined agency of heat and air, or by dissolving mercury in nitric acid and exposing the mixture to a temperature sufficient to expel the nitric acid, when red scales will be deposited called red precipitate. Both of these oxides are capable of forming salts with the acids with which they combine are the nitric and

Sulphuric. Their combinations however being formed by the action of those acids on the metal itself, Sulphuric acid does not act on this metal unless by the application of heat. Thus the mercury becomes oxidized at the expense of the acid. pure sulphurous acid gas is disengaged and sulphate of mercury remains. Which being well washed assumes a lemon colour, and was formerly called Turpith mineral. From the atomic theory it appears that the sulphate or persulphate is formed of 2 atoms of Sulphuric acid = 80 + 1 atom of peroxide of mercury = 216 its equivalent = 296. There is also the protosulphate formed by the action of Sulphuric acid on the protoxide of mercury, this consists of 1 atom of each equivalent. consequently its combining number is 248. The next are those formed by the action of nitric acid on mercury, this acid acts much more rapidly on mercury than the Sulphuric oxidizing and dissolving it, both with and without heat, giving two distinct nitrates of mercury, the one with the base protoxide, the other with the peroxide, forming

the proto & permitrates of mercury. The former is obtained by the action of diluted nitric acid on the metal in the cold, the latter by the action of strong nitric acid assisted by heat, this as before stated being exposed to heat loses part of its acid, and is converted into red precipitate. But the most important salts are formed by the action of muriatic acid on the oxydes of mercury, or according to Sir Humphrey Davey and Chenevix, by the union of metalic mercury and chlorine, forming the salts Bichloride & protochloride of mercury, these combinations being analogous in their compositions to the combinations of the muriatic acid & oxydes of mercury. Thus there is a composition of 1 atom of mercury 200 + 1 atom of chlorine 36 making 236 for the proto chloride or calomel. So according to the old theory, this ~~composition~~ consists of muriatic acid and protoxide of mercury the former 28 the latter 208 making 236. for calomel, again there is a composition of 1 atom of mercury 200 with 2 of chlorine 72, making 272 for the Bichloride. ~~But~~ to view it as a composition of peroxide & muriatic acid it would be 1

atom of the former 216 + 2 atoms of the latter 36 making also 252 for corrosive sublimate. The protochloride of mercury may be most conveniently prepared by mixing one equivalent of the Bichloride with one of Mercury, and subliming. This salt is insipid, inodorous, insoluble in water and is not poisonous. The Bichloride may be obtained by heating mercury in chlorine gas, but is prepared for medicinal purposes by subliming bisulphate, with chloride of Sodium, a mutual decomposition takes place, and the salt in question is obtained. It is a semitransparent, colourless substance, of a crystaline texture, has an acrid burning taste, and leaves a nauseous taste on the tongue. The other principal chemical combinations are formed by the action of metalic mercury on sulpher, affording two distinct compounds, viz. Ethiops Mineral and Cinnebar, the former is obtained by mixing mercury with sulpher when in a state of fusion, the latter by heating the protosulphate red hot, by which part of the mercury is evaporated, and the residue being reduced to fine powder is the combination in question

There are two compounds of Iodine & mercury the proto & deutoiodide of Mercury, and there is a compound of cyanogen & mercury, called the Bicyanuret.

Thus having examined the principal chemical combinations of this metal. I shall next proceed to consider its pharmaceutical ~~relations~~ preparations. Though mercury appears to possess no medicinal properties in its metallic state, yet it is susceptible of a great variety of medicinal preparations. These preparations are those in which the metal is oxidated, those, in which the oxidated metal is combined with an acid, and those, in which the metal is combined with chlorine and sulphur. The simplest preparations are those that have the grey oxide for their basis, a substance obtained by the trituration of mercury, To form those preparations the metal must be triturated with mucilaginous, oily or farinaceous substances, by which process the metal assumes the form of grey oxide and renders activity to the preparations. Thus the preparation called Plenk's mercurial solution is a mild one, and formed by triturating the metal

with a solution of gum arabic. So the blue pill a very eligible preparation is formed by triturating the metal with the conserve of roses, and adding enough starch to form a pill mass, it is a preparation much employed to affect the general system, given as an alterative in doses of from 4 to 6 grains twice a day. And the mercurial ointment, a very important article, is prepared by rubbing together quicksilver & lard, this preparation is employed where the system is apt to be affected with unpleasant consequences from the internal use of this remedy, or where it is necessary to bring the system speedily under its action, also employed in some local affections. There is also the mercurial plaster, in which the metal is triturated with resin and oil and mixed with litharge plaster. And the red oxide of Mercury formed by exposing the metal to the atmospheric air at a high temperature, thought to be uniform in its strength & certain in its operation dose one grain, These are the principal preparations of the metal in an oxidated state, Rest of the

of those preparations in which the oxidated metal is combined with an acid. The preparations obtained from the metal oxidated by the acids, are chiefly those of the nitric and sulphuric. and according to the old theory, muriatic, As the chemical compositions of these preparations have been noticed, it may be necessary only to make some remarks concerning their pharmaceutical distinctions, their applications and the principles processes for obtaining them, The Hydrargyri nitrico oxidum. is a preparation of mercury and nitric acid, aided by heat, in this process the metal first becomes oxidated by the nitrous acid. The oxyde then combines with the remaining acid, and by increased heat, the greater part of the acid is expelled, leaving a mass of a deep red, called red precipitate, It is insoluble in water but soluble in nitric acid, this substance is employed principally as an external application, in the form of ointment. as an escharotic. called Unguentum Subnitratis Hydrargyri, Mercury oxidated by sulphuric acid. forms the sulphate of of mercury, which decomposed by heat forms the subsulphate a yellow powder, called Turpith Mineral. Its process

is similar to the one above, that is by heat, the sulphuric acid is partially decomposed, a portion of the oxygen is communicated to the metal, forming an oxyde, this combing with the remaining acid, making a supersulphate, But by the continuance of heat much of the acid is expelled, and a subsulphate remains — This preparation in a few grains acts as a powerful emetic sometimes as an errhine, The two most active preparations are formed by the union of mercury & chlorine, or muriatic acid and the oxydes of mercury, known as before stated by the names corrosive sublimate & calomel, The corrosive sublimate may be prepared from sulphate of mercury and common salt by the assistance of heat causing an interchange of their elements, Now to view common salt, as a compound of chlorine & sodium, The process would be thus. When the salt is acted upon by the sulphate of mercury, the sodium unites with the oxygen of the peroxyde and forms soda, which combines with the sulphuric acid forming sulphate of soda, While the metalic mercury being disengaged, combines with

the chlorine and constitutes the Bichloride of Mercury, This may be given from 1/8 to 1/4 of a grain, its effects in general are such as are common to mercury, though it is said to be less apt to excite salivation than most of the other mercurials, and to have a tendency to increase the perspiration and urine, When taken in over doses, its effects are burning heat, blisters in the mouth & throat and stomach, excruciating & colicy pains in the stomach, vomiting, purging, tremors, cold sweat, syncope &c. This medicine by cautious management is said to be a valuable article in a variety of diseases, and is thought to be of all preparations, one that sooneat arrest the action of the venereal virus, The incompatible substances are the carbonates of the fixed alkalies, Ammonia tartarized antimony, nitrate of Silver, acetate of lead, sulphur, sulphuret of potass, Iron, lead, copper, Bismuth, also bitter & astringents infusions, The next preparation protochloride of mercury is doubtless the most important of all the mercurial preparations, being mild & safe in its operation, and admitting an extensive application

as a remedy, being useful in all diseases where a mercurial impression ought to be made, also in evacuating irritating & noxious matter from the intestinal canal, In short this preparation may be employed in almost every case, where mercury is necessary, its dose is from 5 to 30 grs. as an alterative from 1/4 to 1 gr. calomel may be decomposed by alkalies, lime, sulphurets of potass & antimony, Iron, lead & copper, 1st Hydrargyrum precipitatum album, white precipitate this is a ternary compound prepared by decomposing the Bichloride by Ammonia, during the process a precipitate is thrown down, consisting of the salt in question, it is insoluble in water & alcohol, may be distinguished from calomel, by its not turning black on being triturated with lime water, This remedy is only employed as external application in some cutaneous affections as the itch &c. With acetic acid mercury forms a salt, the acetate of Mercury, prepared by adding a solution of acetate of potass to a solution of nitrate of mercury. There are yet to be noticed the

preparations of metalic mercury and sulpher, with which, I shall conclude what I have to say in regard to the pharmaceutical preparations of mercury. United with sulpher, mercury forms two preparations, the black and red sulphurets or Ethiops Mineral & Cinnebar. The former is recommended in some venereal eruptions, the latter is employed exclusively for the purpose of mercurial fumigation.

I now proceed to make some remarks relative to the modus operandi of mercury, its effects upon the system, and its therapeutic applications, As the modus operandi of all medicines is involved in considerable obscurity, and has given rise to no little discussions and speculations among medical writers; it cannot be expected, that the modus operandi of this medicine is better understood than that of others in general, But from the effects of mercury, which I shall notice presently, it is reasonable to infer that it is taken into the circulation, and acts through the medium of the blood; But mercury is said to act in two other ways, that it produces a primary impression

on the part to which it is locally applied, and that it is propogated by nervous sympathy to other parts. Of the effects arising from the different modes in which mercury acts, being what is called its effects upon the system, I shall proceed to say something, after I notice its modus operandi more minutely. The fact of mercury being detected in the solids & fluids of the body, is a demonstration of its being connected with the blood throughout the system. According to Dr. Eberle. Different authors mention instances, where this metal has been detected in the bones of those, who have died, after severe salivations, Dr Hamilton has detected it in milk of women under salivation, Gold worn next the skin, has been covered with an amalgam, Another circumstance, that proves the same thing, is that a peculiar metalic taste is manifested by those under the influence of mercury, From these facts, it appears that mercury previous to its producing a specific action on the system, must be taken into the circulation, and according to Dr Pores, it there becomes a new & peculiar source of irritation to all the organs

generally better understood than its modus operandi. the
former presenting phenomena apparent to the eye. while
the latter remains to be proved by tests & experiments.
The effects which the different preparations of this metal
produce are diversified, being modified by different circumstances
the peculiar diseases, stages of diseases, state of the system
constitution, Idiosyncrasy &c. But I shall confine myself at present
the effects of this medicine, upon the system, that may be in a
state to receive it. Dr Murray has placed Mercury under
the fourth classes of remedies, according to its different effects,
When introduced into, and rendered active upon the system
it is said to have a tonic or stimulant effect, and increases the
action of the heart & arteries, making the pulse quick, tense
and full, and operating as a powerful & general stimulant,
and communicating vigour to the system, it gives to the
blood a disposition to assume the Buffy coat, hence it
should not be employed in highly inflammatory
stages of diseases. Mercury promotes the secretions
by exciting the secreting organs, It stimulates the
intestinal canal and excites discharges, producing a
according to Dr Potter calomel long continued will produce

Slow pulse in children

cathartic effect, By stimulating the salivary glands and increasing their discharge it produces a sialagogue effect. Mercury excites the action of the skin, producing cuticular discharge, hence its diaphoretic effect. It promotes the secretion of Bile by exciting the biliary organs, and by promoting the discharges from the different excretory organs of the body, it exerts beneficial effects in chronic Hepatitis, Dropsy, Dysentery, Amenorrhea &c. Hence besides the stimulant effect of Mercury, it is general evacuant. But the specific effect of Mercury ~~the~~ on increased action of the salivary glands, when this effect is produced the system is then and not until then under its influence. This effect is characterized by an increased action of the heart & arteries, pulse becoming stronger & fuller, the gums becoming enlarged & tender and by a peculiar metalic taste in the mouth and fetor of the breath, These are the symptoms of an ordinary course of Mercury - But if it be pushed further, the teeth become loose, the Salivary glands swell, the tongue, roof of the mouth & fauces become ulcerated with

loss of appetite, pain in the stomach & Bowels, irritability of the system &c. It has been a speculative question in what way does Mercury excite the salivary secretions. According to Dr Murray, authors have advanced several hypothesis on this subject, among the rest is that of Dr Cullen, which is that mercury has a particular disposition to unite with ammoniacal salts, and that such salts are disposed to pass off by the salivary glands more copiously than by any other excretion. Dr Murray supposition is, that in consequence of Mercury forming an insoluble compound with phosphoric acid cannot be passed off by the urine, and must consequently be passed off by the salivary secretions. It is by this Sialagogue effect that we know when mercury has exerted its beneficial influence on the system, this effect is only essential so far as to designate the specific action of the medecine, by which the sensibility is excited, the circulation equalized and congestions removed. In the fœtid breath in salivation owing to the mercury having

changed the sensibility of the lacteals, so that they absorb indiscriminately the nutritive and excrementitious particles, which being taken round in the circulation and thrown off in the kidneys of the lungs &c. I shall now advert to the therapeutic applications of mercury; from the diversified effects which this remedy produces, it is applicable to numerous diseases & stages of diseases. It was by slow degrees that this valuable medicine was brought to light, and a long time before it arrived to its present state of repute in the cure of diseases. In the time of Boerhaave mercury was rejected by all the practitioners, in the venereal disease, It was also for a long time confined almost entirely to the treatment of chronic diseases. It has of late been introduced as a remedy in acute diseases, more especially in the second stages after the reduction of inflammatory action, Dr Eberle mentions the propriety of its employment in acute diseases, Dr Robt. Hamilton speaks highly of the efficacy of calomel combined with opium

in inflammatory Diseases. Dr Armstrong says that calomel is anti-inflammatory, and should be used in acute Diseases. But as the effects of Mercury upon the system is a general stimulant, it seems to be a matter of some Difficulty to understand the efficacy of this remedy in inflammatory stages of Diseases, It is however justly proscribed by Dr Potter in the first stages of highly inflammatory Diseases or where attended with high local inflammation, he says the action of the system must first be reduced by the lancet. then calomel will have a place. Neither is mercury good in scrophulous and tainted habits of body. Dr Eberle says that it may be given in Scrophula in small Doses followed by laxatives. In Croup mercury is given with great advantage. Dr Potter says it must be given, in large Doses when the Disease will not yield to milder means. Dr. Dewees speaks favourably of it in croup. In acute rheumatism the pulse cannot be tamed while mercury is given, though the patient be bled copiously. in acute hepatitis. the action must first be reduced

before mercury will exert any beneficial influence, and so of other high inflammatory Diseases in which mercury is indicated. the inflammatory action must first be reduced by the lancet, If mercury has any place in such stages. it only as a cathartic, and under such inflammatory grades, mercury rarely affects the salivary glands the high excitement resisting the action of the medicine, In puerperal fever calomel is thought to be a valuable remedy by Armstrong. given in scruple doses together with bleeding. In Diseases arising from marsh effluvium and in those attended with Biliary Derangement, mercury is ~~said~~ a remedy of great value, As in Intermittents, Bilious remittents & congestive fevers. Also yellow fever, which is a violent bilious congestive fever. mercury in these cases pushed to an extent sufficient to affect the salivary glands, exerts a specific influence upon the system, By virtue of which, it equalizes the circulation unlocks as it were or emulges the Biliary organs and removes congestion, In these cases there is no remedy that can supply the place of Mercury, as has been

proved, notwithstanding the clamours against its employment. Dr Armstrong speaks of its unrivalled utility in the congestive stage of Typhus fever, and it certainly is the sheet anchor in all congestive diseases. It is this alone that allays the irritability of the stomach (a common attendant in these cases) by removing the congestion. In the latter stages of Pneumonic affections mercury combined with opium or camphor is valuable - observing at the same time the use of Serpentaria and Seneka - they promote the discharge of Bronchial mucus while they allay cough & irritation - the same in Peripneumony, Pertussis & - In Pneumonia Biliosa it is more indicated from the liver being affected, In inflammation & suppuration of the lungs, where there is no scrophulous diathesis. In some varieties of opthalmia where the disease increases and the strength fails under the depletory measures - it is useful combined with opium. In Dysentery arising from marsh effluvia, In Diarrhea

In Diarrhea - where from the appearance of the stools there appears to be little or no bile secreted, Mercury is a valuable remedy, given in minute doses so as to act gently on the Biliary organs - and to allay that morbid irritation along the intestinal canal. In Dyspepsia, where from long continuance functional disorder of the liver is induced, giving a few grains of blue pill, with laxatives and bitter tonics. In Jaundice proceeding from Biliary derangement, Mercury must be relied on, and given till the stools become dark - the skin will then begin to get clearer, push the remedy little further, the stools will resume something of their natural appearance mixed with bile, and the skin becomes quite clear - In Tetanus Mercury has been given with advantage, more especially in Idiopathic tetanus - It acts by increasing the sensibility of the system - while under great indirect debility, as a prophylactic against canine madness Mercury is valuable - The efficacy of this remedy in Dropsy is generally acknowledged - In this Disease calomel has also as a prophylactic against artificial small pox,

— in a severe form —

its efficacy increased, given in combination with Squills. As Squills excite the secretory vessels of the kidneys, while calomel by exciting reabsorption of effused fluid, furnish them with an augmented portion of the materials of secretion. In chronic inflammation of the brain mercury is of acknowledged efficacy. As an external application it is valuable in some cutaneous affections as scabies, porrigo and porrigo. And in Syphilis mercury is a remedy of undoubted efficacy, It acts says Mr Hunter by keeping up a permanent stimulant operation on the system, by which an action is induced incompatible with that morbid action that constitutes the disease, and kept up until the virus is eliminated from the system by the usual excretions, Though mercury appears to be and certainly is a remedy of unrivaled value when properly administered, yet it cannot be denied that if given when it is not indicated, it will probably be productive of serious consequences, proving sometimes fatal to the patient. Errors and oversights of this sort often

bring the best remedies into Disrepute, And the
indiscriminate administration of Mercury through
all stages of Diseases and under any state of the system
is always more Dangerous than beneficial and cal-
culated to bring the remedy into Disrepute, and has given
rise to unfounded clamours against its employment,
but it is a medicine as Dr Armstrong remarks. like an
injured and innocent individual, will have its
character restored by an impartial & strict examination
in respects the administration of this remedy however
that which a competant practitioner knows and
feels to be his Duty, he ought steadily to pursue
even if it should expose him to open censure
and secret insinuations.

An Inaugural Dissertation
On Fever
Submitted to the examination
of the
Provost, Professors, and Trustees,
of the
University of Maryland
For the degree of Doctor of Medicine
By
Joseph F. Perkins,
1833,

Abbott

To Mr. Elisha Perkins of Balt.

This Essay is gratefully inscribed, as a testimonial of the affection and esteem with which he will ever be regarded by his

Obliged Nephew

T. F. Perkins.

FEVER — This is a subject, the importance of which has attracted the attention of physicians; and has at all times been viewed as presenting the most extensive and inviting field for observation, and the exercise of ingenuity. The Pathology of Fever has engaged the human mind, for near three thousand years: and yet it has been in a continued state of revolution and instability — Systems have appeared and vanished in rapid succession; each had its day and its votaries to yield it faith, but the "stream of time has hitherto overturned all these unsubstantial, though highly wrought fabrics."

Would it not be presumption therefore in a mere "freshman" in medical science to attempt to invent anything original on the subject of Fever? a subject upon which it has been anticipated by a host of authors?

I hope my preceptors will pardon me if my vanity has led me to think I have got on untrodden ground, while I have been travelling in the path which has been made smooth and easy

by the labours of former Sojourners —

That disease of the human subject which consists in changes from cold to heat, or from heat to cold, throughout the body; and is attended with correspondent changes in the pulse, sometimes very quick, strong, hard, and full, at other times slow, small, feeble, and contracted, is called fever.

The system experiences considerable variations of pain and ease — Changes also take place in the secretions and excretions, and in the various functions of the body.

As the varieties of the disease which are classed under the general head of Fevers, assume different types, or differ from each other in the circumstances and repetitions of their paroxysms, they have different classical names assigned to them — Viz Intermittent, Remittent, Bilious, yellow, Typhus, Fevers, &c —

I shall barely, make some observations on Fevers in its general nature — For, as Dr. Cullen observes "fevers as differing in the number and variety of their symptoms have been very ~~[illegible]~~ properly considered as of

distinct genera and species. But we suppose that there are certain circumstances in common to all the diseases comprehended under this order, which are therefore those essentially necessary to, and properly constitutive the nature of Fever."

The causes of fever are generally divided by pathologists into two varieties, the Predisposing, and the Exciting or Proximate.

"All those external and internal causes which tend to lessen the power of vital resistance to the influence of morbific agents, may be considered as predisposing causes, and this predisposition may be either Accidental or Hereditary". "The exciting are all those causes which excite actual disease by the deleterious or irritating impressions which they make upon the animal system." But as the same agent may manifest its influence on the animal economy, either as a predisposing or an exciting cause of Fever, according to the intensity with which it acts, or the previous condition of the system, I shall confine myself to the causes in general

Viz – Marsh Miasmata – such as exists in low countries and in the vicinity of Marshes, fens and stagnant waters – also Human effluvia, or miasmata generated by the decomposition of the matter of perspiration, and the other excretions of the animal body; and hence it most frequently occurs in the confined and crowded hovels of the poor, in crowded jails, ships, hospitals, & wherever many individuals are confined in apartments not duly ventilated. Violent exercise of the body continued or violent exercise followed by too sudden rest – laborious and continued exercise of the understanding or of the affections – too much Stimulus, either durable or diffusible taken into the System so as to occasion a phlogistic diathesis, will predispose to Fever. Also wounds, bruises, and contusions either local or general, – any thing which will cause a disturbance in the "equilibrium of the nervous and vascular excitement", or in other words destroy the equilibrium of the Solids and fluids, and their harmonious or equally operating power upon each other will produce fever, or act as its predis-

-posing cause. The first operation of these causes is to produce debility, without which we cannot have fever. This debility may be direct or indirect. Direct debility when the solids are debilitated through a direct operation upon them, by cold, by fasting, too great bodily exercise, also by a sudden loss of too much blood, or by a slow loss of blood. Indirect debility is occasioned by stimulation. This is the same as phlogistic diathesis. There is more fluid in the system than is expended in nourishing the solids, and in the various secretions and excretions. This surplusage, if it do not destroy the patient and be not taken off by depletion, will in time end in a state of debility, much like that which is occasioned by direct causes. Either of these states of the system occasions a predisposition by increasing excitability; and the surrounding stimuli, finding the system in this state produce disease. In fevers the debility first perceived is in the brain. This is evident from the drowsiness, sleepiness, langour and general debility which are commonly the first symptoms. The next sensation is frequently

cold on the back of the neck and spine, and generally on the surface and extremities. The coldness on the back may be occasioned by the brain not sending out the nervous energy. Indeed about this time there is a general debility, a general stupor, and a langour throughout the system; because the brain, being debilitated does not send out its energy by means of the nerves to every part of the body, and because the functions of the different organs dependant upon the brain, are impaired. About the time of the cold feeling the blood leaves the surface and extremities. It is not forced out to them, which is a principal cause of the cold sensations. The reason of the blood's not being apparent in these parts is, that the heart, being debilitated by the antecedent exercise, and its not now receiving nervous energy from the debilitated brain, is not able to force the column of blood with its usual power, by its systole into the arteries. The arteries are also sufferers from the debility of the brain and they cannot help on the blood by contractions and dilatations. The muscles also are implicated and do not contribute

their assistance as in health; consequently the blood instead of being forced into the surface and extremities, and warming on those parts by the evolution of latent heat. a morbid sensibility is produced. There is great internal congestion of the large arteries and veins. It is all in the neighbourhood of the heart. This continuing here occasions labour of the heart; and from the increased quantity of blood sent through the pulmonary vessels to the lungs, breathing is difficult and increased in frequency — more and more of the principle of heat is taken in by the very fast breathing, till the blood by its quantity and heat, stimulates the muscular fibres of the heart and arteries. The consequence is from the very nature of such fibres, that their density as simple solids and their tone as muscular fibres are both increased. Hence they contract more and more till they force the blood out to the extremities and surface — now the surface is hot. The load of stimulus within is diminished and the breathing relieved. The exhaustion per-

form

their functions, perspiration flows, and the patient is relieved — But after a period the excitement from the quantity of blood and from the principle of heat, taken in by the rapid breathing, or that temporary energy which was forced upon the heart is spent, and the heart and arteries do not send out their blood. It therefore accumulates in the internal organs, till the heart and the arteries are again stimulated to action, and another paroxysm is completed.
The changes in the other functions of the body may be easily explained upon the principle of inequality or want of equilibrium of the solids and fluids — The slowness and weakness of the pulse in the time of langua. Its smallness, frequency and irregularity in the cold stage, its softness and moderation as the sweat flows, and its returning to its usual state as the paroxysm ends are just what should be expected and need no explanations. — The smallness frequency and anxiousness of the respiration, and the coughing in the cold stage, are occasioned by the

stimulus and pressure of the blood, on the lungs and on the vessels in that region. The nausea and vomiting which sometimes occur during the cold stage arise from congestion of the capillary vessels of the stomach. Perhaps a fluid is now effused or secreted by the engorged vessels into the stomach, something of the same nature as the sweat, which is pressed out upon the surface of the body when the blood is forced into the capillaries there, and perhaps by operations not wholly unlike. The final vomiting of bile which sometimes takes place is occasioned by the increased action of the liver and biliary ducts, and the increased quantity of blood pressed through them and forming bile; which is forced into the duodenum and not finding a free passage downwards, is by its stimulus forced into the stomach and there excites vomiting — This bile when it finds the most easy course downwards, occasions the bilious diarrhea if it be in large quantity, if it be in

small quantity it occasions loose stools. The thirst during the hot stage arises from the sudden and too great excitement in the vessels of the mouth and fauces. The small capillary arteries are too soon distended and the glands cannot secrete being contracted by stimulus. This stimulus increasing the tensity of the fibres as simple solids and thereby as muscular fibres. — Hence the glands contract — the blood & saliva from the blood cannot now be secreted. It will however finally be forced through the glands. The dryness and heat of the mouth & fauces during the hot stage, before the sweat breaks out, arises from a similar cause to that which occasions dryness and heat on the surface of the body at the same time. The heat and dryness on the skin which covers a phlegmon, are also from a similar cause. The dryness on the mouth and fauces may be increased by the rapid respiration. The air taking up the moisture — as every one has experienced by breathing with the mouth open, particularly in a cold

when respiration through the nose is obstructed, through the nose — The nose does not experience this evil from receiving air through it because it is not capable of the sense of thirst. Thus the changes in the secretion of saliva and mucus of the mouth and fauces, which take place in a paroxysm of fever are explained. The scarcity of urine in the cold stage, its pale colour, its want of albu and sediment are owing to the small quantity of blood which is forced on the kidneys and the sympathy which exists between them and the skin. Its paleness may be owing to deficiency of lithic acid. The kidneys in the cold stage secrete imperfectly. In the hot stage, as more blood is forced through the renal arteries to the kidneys, more urine is secreted — probably the vessels of the kidneys are relaxed? — It has more of the iron or colouring principle of the blood. The sediment is produced by this imperfect secretion. The detumescence of tumors on the surface of the body and the drying up of ulcers are owing to the same cause with that of apparent constriction on the surface. There is not sufficient blood sent to them to support them, nor

to the small capillary veins and arteries on the surface to distend them. The difficulty in attention and recollection during the cold stage is owing to the debility of the brain and the absence of the necessary blood to keep up the due excitement. The delirium which sometimes takes place in the hot stage is owing to, too great excitement from too much blood in the brain.

The first indication of cure in fevers is to restore the equilibrium of the vascular system, or in other words the solids and fluids — if the solids in general be debilitated and no one more than another — if there be no local affection? The restoring the equilibrium is all that is at first, to be attempted — this is done by relieving the congested organs. Bleed, purge and pursue the antiphlogistic regimen —

The second indication of cure is to restore strength to the system generally, by durable and diffusible stimuli, properly selected and judiciously administered — If from some cause, which in many cases is easily discovered, but not easily understood, some impe-

tant organ is implicated, and consequently suffers more from the too great stimulus or burthen of fluids that part is to be particularly attended to; at the same time, that means are used to restore the integrity of the whole system — Cases of local affections frequently occur in patients of Phlogistic diathesis — Inflammation of the Pleura Costalis and of the lungs sometimes takes place — frequently the liver becomes implicated — These being important parts of the system and having a tendency to disorganization, require especial attention. Not only general and full bleedings, purges and diaphoretics are here necessary, but applications must be made to the most affected part — Blisters in this, as in most local cases of febrile diseases relieve, after the excitement is reduced by blood letting, by their counter irritation — The very powerful and sudden stimulus of the blister is evidenced, not only by the vessels in immediate contact by increasing the excitement and stimulating the capillary vessels to throw out some of the serous or watery parts of the blood; and by their

producing a flow to the part, relieves the neighbouring vessels of a part of their burden and stimulus - were not this relief given, inflammation would increase in extent and violence till disorganization would take place. How do blisters disperse tumors, but by very suddenly stimulating the part, and thus enabling the solids to dispel the lingering blood - thus changing the action of the part. Cold applications disperse inflammatory tumors by a different operation - They do it, not by their astringent power, for cold in itself has no such power but by the principle of restoring the due temperature. The heat of the part communicates itself to the cold applications - from an invariable law that a body gives off its heat to a cold one which comes in contact till an equable temperature is produced.

Cupping is useful in inflammations particularly in loose parts, as on the side, by the mechanical compress which it makes on the part and the irritation & consequent flow to the part. If scarification have been made under the glass some of the blood will

be forced or compressed through them into the glass — Thus I have observed that the first thing to be attended to in Fevers is to restore the equilibrium between the solids and fluids — and that when any local inflammation takes place, particular attention, must be paid to that, — while means are used with the general System. The second indication of cure, I have observed, is to restore strength and tone to the System gradually, by stimulants and tonics properly selected and judiciously administered: I have ~~[illegible]~~ attempted to explain the modus operandi of blisters, of simple applications & of cupping — I will further remark, that considerable experience & accurate observations on the great variety of cases of Fevers, are absolutely necessary to teach the physician how fast to proceed in his practice for restoring the equilibrium. Some Fevers require very rapid, and powerful applications, hasty & powerful depletion — others require great slowness & moderation. To practice upon the doctrine of inequilibrium of excitement it will be necessary for the physician to take into consideration the various tissues of the human body

their structures, connexions, & functions — In the solids, I include the muscles, arteries, veins, lymphatics, glands, &c &c. In the fluid parts are the blood, bile, saliva, urine, perspiration, and also the nervous energy, whatever it may be — The physician must take into consideration the operations of the fluids upon the solids & the solids upon the fluids, also the ~~st~~ations and relations of the different tissues — He must also take in view the operations of the various senses, affections & passions, and mental exertions on the body — Thus having his foundation laid on a knowledge of the Anatomy & Physiology of the whole man, he will be qualified to practice upon the doctrine of the solids & fluids in Fever. Equilibrium of action is necessary in all the operations of nature & the destruction of this produces derangement & disorganization, so in the human machine, whatever destroys the duly balanced & harmonious operation of all the parts, & the functions of any of the important organs, occasions disease, and the object of the practitioner of medicine, is to restore the healthy balance.

First restore the Equilibrium and between the Solids and the fluids, and then build up the System —

An Inaugural Dissertation On Antimony and its Preparations

Respectfully submitted to the examination of the Provost Trustees and Medical Faculty of the University of Maryland

FOR

The Degree of Doctor of Medicine

By

Lycurgus C. Griffith

Baltimore

March 7th 1833

to the

Medical Faculty

of the

University of Maryland

In consideration of their exalted talents and intrinsic worth, this imperfect essay is most respectfully inscribed by

the Author

Antimony and its Preparations

Before entering into a consideration of the prop
erties possessed by this metal it may not be improp
er to take a cursory view of its history. Of the discov
ery of this article we have been able to learn nothing
but that it was known to the ancient Eastern nations
by name of Stibium, and used by them from time immem
orial as a pigment for the eyes, we have sufficient evi
dence from the frequent allusion to it in the Bible and
also by many of the writers of antiquity —

This practice of painting the eyes exists in Asiatic
countries at the present day. E. S Waring in his tour to
Shiraz says that the Persian women paint their eyes
with antimony to increase their vivacity and give to
them a voluptuous expression — For the introduction of
this important article as a medicine we are indebted
to Basil Valentine a German Monk of the Order of St

Benedict who published a work in which he described various preperations of ~~this article~~ it, But in his experiments ~~with~~ made upon the monks with whom he was associated it is said that he was extremely unfortunate having either killed or injured the most of them whence according to Doctor Paris we have the origin of the word. Antimony. αντιμονος — We next find this medicine in the hands of that extraordinary being Paracelsus, with which in conjunction with opium and mercury which latter article ~~was first~~ administered by him). he is said to have performed some extraordinary cures —

There is perhaps no article in the Materia Medica which has experienced so many changes and reverses of fortune; if I may be allowed the expression — At one time we find it boasted as that long sought and at last obtained Panacea, before which ~~[illegible]~~ the terrors of death and disease were to vanish — and those who administered it were regarded as saviours of the human family and countenanced and supported by Royal authority, at another period we see it degraded from the high ~~rank~~ elevation, on

which it so proudly stood, and those who had the temerity to prescribe it were proscribed and prosecuted by those powers which had previously protected them
in the noted contest between the Galenists & Chemical sects in the fifteenth and sixteenth centuries this article was one of the main grounds of dispute and the Galenists having obtained the ascendency solicited and actually obtained an edict from the Supreme Council of Paris, in 1566 by which its use was proscribed, and a physician by name of Besnier was expelled from the Faculty of Medicine in 1609 - for having administered it, "In 1637 - Antimonial wine was received among received among the number of Purgatives by public authority and in 1650 we find a near decree subverting that of 1566 which again restored the reputation of this Article and in 1720 the government which had persecuted with such rancour every individual who ventured to use it actually purchased a receipt for an antimonial preparation which at that time enjoyed a great reputation, called Panacea Glauberiana since known under the title of Kermes Mineral—

Having given this Epitome of its History we shall next consider its physical properties after which we shall proceed to the preperations of this metal, the unimportant of which however we shall barely notice

Antimony is a brilliant metal, greyish white inclining to blue, lamellated. Specific gravity: 6.702. Fuses at 810°, and in cooling sometimes crystallizes in octahedral or dodecahedral crystals, it is brittle and palverizable, volatile at a high temperature, decomposes water strongly at a red heat, dissolved by the action of nitric & sulphuric acids. It fulminates in percafsion when united with Chlorate Potafsa, when heated in a covered crucible to a red heat and suddenly exposed to the air ~~deflagrates~~ or inflames and burns with a white light. Though this metal is found native; it is generally separated from its ores principally the Sulphuret, which was for a long time known and called by name Antimony (though improperly whilst the metal itself received the appellation of the Regulus of Antimony. The Sulphuret of Antimony is now scarcely ever employed, though it possesses considerable properties as a diaphoretic and was formerly much esteemed as a

remedy in the cure of Rheumatism and cutaneous affections but as it is uncertain in its action it is not now considered of much importance and may safely give place to other more important preperations, the dose however is from 5 to 10grs

The Antim. sulphur. Preperat. of the shops is merely the preceding article prepared for internal administration, it is therefore unneccesary to repeat what we have said above

Vitrum Antimonii in like manner may be considered as one of that numerous class of articles which serve to fill up the pages of our Materia Medica and clog the mind of the student without yeilding him any compensation for the time and labour spent in acquiring a knowledge of them.

The Antim. vitrif. cum cera was formerly highly esteemed as a remedy in dysentery and in some cases I am disposed to think it possesses considerable virtues, it is one of the ingredients in Sappingtons pills at one time so celebrated in this country in the cure of the above mentioned disease. this article has also been recommended in Cynanche trachealis Dose 2 to 20grs.

Oxyd. Antim. cum Phosphat. calcis — Pulvis Antimonialis or James Powder was formerly considered one of the most useful diaphoretics

the Materia Medica and was consequently prescribed in
all febrile diseases where they were indicated, for this purpo
se the dose is small from three to eight grains to be re-
peated every three or four hours. In larger doses it proves
Emetic and Cathartic. But Experience has proved that
this article though in some cases highly useful is by no means
certain in its action the Antimony being sometimes in the
state of a peroxide which has been proved to be totally in-
ert, as it cannot therefore be depended upon it might with
great propriety, be entirely discarded from practice.
Beside the preperations already mentioned we have the Sulph
Aurat Antimonii. Sulph Antim. Precipitat. & the celebrated
Kermes Mineral. these three articles differ very little either
in medicinal virtues or chemical composition. The latter ar-
ticle tho there is little attention paid to it in this Country
is in high repute among the German Practitioners of
the present day. Doctor Eberle seems to think very highly
of this article. In his Mat. Medica speaking of this article
he says "that it is better adapted than any other of the prep-
arations of this metal to cases that require the long continued

use of Antimonials or where there is much debility of the digestive organs. Its operation on the stomach is mild and it may be given a long time without weakening the organs bringing on an increased disposition to nausea and vomiting"

Having thus briefly noticed those preparations which we consider as unimportant we shall now proceed to that with which we are more immediately interested on account of its great virtues as a remedial agent and the consequent high rank it sustains in our system of Medicine. It may be safely and efficiently substituted for all the foregoing preparations.

The Tartras Ferri et Potassæ or Tart Emetic. So prepared from the protoxide of the metal, its composition is fixed and its action always certain. I do not consider it necessary to give the formula for its preparation. In most of the Pharmacopeias this article is considered as a triple salt, Dr Paris and Gay Lussac however consider that the Bitartrate Potassa acts the part of a simple acid, I must confess for my part that I cannot see the justness of their reasoning on this subject. When pure this article is obtained in crystals whose ~~regular~~ form is a regular tetrahedron of a white colour without any odour, slightly

Styptic and metallic taste, effloresces in a slight degree on exposure to atmospheric air, when thrown upon burning coals becoming black and affording metallic Antimony, with regard to its solubility there is considerable difference of opinion this may however depend on the impurities which may happen to be contained in different parcels. Dr Duncan who is said to have employed a very pure specimen found that it is soluble in three times its weight of ~~water~~ water at 212° and in fifteen at 60°. Bergman & Fourcroy on the other hand affirmed that it requires eighty parts of water at 60° and nearly forty of boiling water to one of the salt. Tart-Emetic if pure should when dissolved in distilled water, afford a copious gold coloured precipitate with dilute sulphuret of Potassa or Ammonia: soluble in Nitric acid and a ~~copious~~ white and abundant precipitate with Aqua Regis - likewise soluble in the above mentioned acids.—

The incompatible substances are the Hydrosulphurets, most mineral acids, alkalies the infusions of many of the vegetable astringents. — When this article is taken in an excessive dose it produces on the human frame the effects of a most violent

poison patient complains of pain and constriction of the fau
ces so great that the patient is sometimes unable to swallow
pain in intestines, rough metallic taste, hiccough, cardialgia, ex-
cessive vomiting succeeds, matter ejected often mixed with blood-
Does not effervesce on mixture with chalk, (this serves to distinguish
it from poisoning by acids) - changes the colour of Litmus or ℞ of Red-
cabbage in very slight degree - copious intestinal evacuations mix-
ed with blood sometimes supervene violent cramps in the
extremities and frequently vertigo pulse small and accelerated
skin cold - when an individual is found affected with these
symptoms, it is necessary that the most prompt and vigorous
measures should be adopted for the relief of the sufferer -
Should the vomiting be excessive as is most generally
the case with cramp in the stomach copious draughts of
sugar and water must be administered, if there is not a
cessation of vomiting, after we may suppose that the tart-emet=
ic has been ejected; ~~from the stomach~~ and there is at the same
time an augmentation of the pain we may prescribe a grain of
opium to be repeated after the interval of a quarter of an hour
if these ~~means~~ should prove unavailing and the violence of the p-

symptoms continue to increase, leeches should be applied to the abdomen and also to the throat - if there be great difficulty of swallowing. If after having swallowed an excessive dose of this article vomiting should not occur, and the person who has unfortunately taken it should yet labour under the other symptoms several glasses of sugar & water should be drank in order to induce vomiting. if it does not succeed the following decoction should be given in repeated doses; put four or five gall nuts in two Quarts of water let them boil for fifteen minutes then strain, Experience proves this to be superior to any other of the vegetable astringents, if however they cannot be obtained, the Cinchona Bark or that of the oak* or the willow may be employed - in lieu of these a strong infusion of common tea may prove highly serviceable - Dr Paris states that one ounce of the decoction of the yellow bark is capable of decomposing exactly 3i of the salt - We should not in any case employ Ipecac. white or Blue vitriol to excite vomiting for they only serve to increase the violence of the inflammation -

Professor Thompson of the London University in a late essay - on astringents says that the decoction of Oak Bark produces no effect on Tartar Emet -

We now shall treat of Tart. Anti. & Potas as a remedial agent. In the first place ~~of~~ as an emetic it is not necessary to spend time in fruitless speculation with regard to the modus operandi of this article. Besides it is not probable that we should be able to throw any light on a subject which those who have had greater powers & more extensive opportunities have in vain attempted, moreover it is not probable that the precise method by which an agent acting on the stomach excites vomiting will ever be discovered; It may be considered as one of those laws which nature delights to conceal from the scrutinizing eye of man. It is proper therefore that we should content ourselves by with minutely observing the Phenomena produced and their effects upon the living system. As an emetic the article under consideration ranks at the head of the list, its effects are certain prompt and energetic, it at the same time produces a complete agitation and impression upon the whole nervous system, and does not like some articles of this class for instance Ipecac. leave the bowels in a constipated state, besides this the small quantity requisite for a dose and its almost entire want of taste serve particularly to recommend it among children, as it is always proper

in administering to them to obtain as small a bulk as possible. It is employed in nearly all febrile diseases either with a view to its emetic effects or the power which it exercises over the heart and arteries. In the forming stage of Typhus fever this article is one of our most powerful remedies and when thus exhibited breaks up the chain of morbid action and arrests the disease, for its administration in this disease we have the sanction of high authority. Dr Armstrong speaking of this disease says Antimonial emetics according to my observation are serviceable and when the fever is of the least complicated kind commonly producing an improvement in the condition of the skin, respiration and particularly the pulse and their efficacy may perhaps depend upon the power they possess of determining the blood to the surface and thus altering the morbid state of the circulation." They are highly advantageous in most congestive forms of disease, in the typhus Pneumonia that spread over our whole country in 1813. 14 and destroyed so many of our citizens. Emetics and diaphoretics afforded almost the only means of relief for this purpose the Tart Anti was admirably calculated by its possessing conjointly emetic & diaphoretic

properties, and when the pathology of the disease was known was widely and usefully employed — It is decidedly useful in intermittent & remittent fevers — I have frequently known ~~their~~ when exhibited in intermittent fever so as to produce pretty free emesis to prevent the paroxysm and arrest the disease. Eberle says that, ~~they~~ are useful not only by the general impression they produce upon the system but they also serve to prepare the stomach for the reception of other remedies by increasing its susceptibility — and that ~~they~~ antimony produce this effect upon the system generally is proved by the greater facility of making a mercurial impression, when it is used in conjunction with Calomel —

In some of the exanthemata the emetic is sometimes productive of great services, in Measles and Small pox when there is much thoracic oppression an emetic of Tart. Antim will afford great relief as it produces a determination to the surface and thus relieves the congestion causing the oppression Armstrong says — in the beginning of Measles, where the lungs have exceedingly oppressed and particularly where vomiting has been at hand — I have often seen the most striking relief follow the

the exhibition of an Antimonial emetic. In the early stage of Scarlatina they have been highly recommended, the same Author says of Tart-Emetic if administered in the first stage of the disease serves to render the latter part mild and manageable, Dr Withering considered emetics as almost a specific in this disease. — In cynanche tracheali this is one of the most important remedies we possess and will scarcely ever fail to relieve the patient if given in time — when however the febrile excitement runs very high blood letting is always requisite, Its powers as an emetic in this disease may be greatly augmented by a combination with Calomel, In Pleuritis after a copious abstraction of blood I have exhibited this article with great advantage in combination with sulp Magnesia, acting as an emetico. cathartic, In pneumonia Biliosa after inflamatory action has been subdued by use of the lancet, it will act like a charm in removing the pain from the Thorax, — Horn — Richter & Scudamore recommend ~~this~~ it in Acute Rheumatism, tho Tart Antim has been used in gout, Scudamore does not favour its exhibition unless an evacuation of the —

Stomach in a full degree is indicated, Mr Alexander Small of Minorca - however speaks very favourably of it in his own case, In hæmoptysis it has been used with the view of arresting the hæmorrhage - this practice is supported by some very high authority, Dr Cullen however says he tried in one instance & it increased the bleeding to such a extent - that - he was ever afterwards deterred from trying it if used in this disease where there is febrile symptoms blood letting should always be premised,

Exhibited in repeated doses of a grain every 10 or 15 minutes so as to produce nausea and great muscular relaxation it is extensively employed to facilitate the reduction of hernia and dislocated joints" Dr Chapman used Tart. Emetic as an enema in cases of poisoning." he says the first case in which he employed it, was one in which the most active articles had been resorted to without effect, he then directed 3ss of this ~~chalete~~ to be dissolved in a small portion of water and thrown into the rectum, as I anticipated says he it produced a violent Cholera Morbus evacuating the entire canal so that the food, undigested, passed

"by stool. he also frequently used it in cases of obstinate constipation his ordinary method of prescribing it for this purpose a solution of ℥i which not proving sufficient a second solution of the same quantity is to be thrown up in 20 or 30 minutes in this manner he has even administered one drachm, when the effect is full and complete an extraordinary degree of muscular relaxation follows - without producing permanent mischief, Bearing in mind the effect produced upon the system when administered as above - he employed it in a case of tetanus as he informs us with complete success. the character of Dr Chapman forbids us to doubt the above statement but we can but express our surprise at the immense quantity administered by him, and without being productive of ill consequences - whilst small doses are sometimes productive of the most serious effects, With regard to its efficacy in Tetanus I apprehend that the sanguine hopes entertained by him of its arresting this violent disease of its terrors and mortality - have not been realized or we should have heard further account of it, Being aware that when applied to external surfaces ~~this~~ it is capable of producing an intense

degree of inflammation we should be led a priori to conclude that - when applied to the delicate & tender surface of the mucous membranes - there would be developed a much higher degree of irritation, and that - it will produce extensive ulcerations has been proved by the autopsic examinations of those who have taken large quantities of the article. Tart-Emetic has been recommended by Dr. Mitzman a Russian practitioner in opacity of the cornea his mode of using it is in form of ointment - prepared with fresh butter and castor oil aa ℥i, Tart. Antim. ℥vj - In scrofulous ophthalmia attended with much gastric disturbance with variable and capricious appetite emetics are productive of great advantage. For this purpose an aqueous solution of Tart. Antim. appears to be the most useful -

As an irritant - applied to the external surface I am disposed to think very favorably of this article, from the well known extensive sympathy existing between the skin and other parts of the animal organism it must be admitted that an article capable of making a powerful impression on this most important part of the human structure, must - by this means exercise a powerful -

influence on the parts of the system which possess so intim-
ate a union and relation with them. A knowledge of this led
to the employment of permanent cutaneous irritation in inter-
nal affections, with this view the use of this article has
been resorted to in chronic forms of disease, and with mark-
ed and decided success, In Phthisis pulmonalis it is said
by some authors in their hands to have been productive of
great advantage and to have even effected a cure in some
of the varieties of this almost irremediable disease.—
In chronic hepatitis this article was first made use of by
Dr Jenner the immortal discoverer of vaccination. The effects of
the ung. Ant. Tart.— were so manifest and truly astonishing in
some of the cases reported by him that it may not be amiss
to notice one or two of them—
Case 1— A boy twelve years of age, labouring under symptoms
of this disease six months, liver enlarged indurated and sensi-
ble to the touch, the cachectic appearances and emaciation were
such as indicated probability of a fatal termination, at this peri-
od the ointment was applied, the desired pustulation was pro-
duced after which he recovered with astonishing rapidity—

"Case 2. Man thirty years of age, had been ill four months — feelings languor nervous debility accompanied with dyspepsia and acid eructations, pain right shoulder & hypochondrium dry sore throat — general feverishness. disease continued to grow worse, especially dull pain in region of the liver, until he was seized with complete obstruction gall bladder — skin tinted deep yellow, food and medicines taken regurgitate in unaltered state from the stomach great torpidity of bowels almost impossible to procure evacuation, In this state pills of soap and Rhubarb with an aromatic — and the ointment were prescribed, in 24 hours a copious crop of pustules made their appearance these suppurated and discharged with great freedom about the time the eruption made its appearance, sudden burst of evacuations occurred, consisting first of bilious colored fluids, next green slime and shreds of a skinny appearance, In his first stools my patient observed a map which he judged to be the food and medicines he had taken, having remained unaltered in the alimentary canal — all the symptoms gradually disappeared and in six weeks he was able to resume his customary occupation —"

In the two cases just quoted we have evidently well developed hepatic affection and in the latter more especially a very aggravated form of the disease and certainly by their results they entitle Tart-Emetic to a considerable share of attention, in the treatment of this so frequently obstinate disease. The rapid change that took place in the patient as soon as the pustules were formed in a striking manner point out the intimate relationship between the skin and the liver, or the cutaneo hepatic sympathy of Dr James Johnson.

It is also stated by Dr Jenner that he used it with success in many other forms of disease. as chorea Epilepsy Mania Asthma &c. In that troublesome and violent disease Pertussis so frequently occurring among children, friction of Tart-Emet. ont applied over the region of the stomach and thorax are said to be eminently useful, where however the patient is of a robust and plethoric habit and there is considerable degree of febrile excitement it is necessary to premise the use of the lancet. In the treatment of chronic and painful affections of the joints; even when the local inflammation is pretty active provided there is not much general febrile action

this preparation is an important remedy. And in Spinal irritation applied over the vertebral region so as to produce a copious crop of pustules is productive of unequivocal advantage. The activity of this ointment depends to a considerable extent upon the fineness of the Tart Emetic used in the preparation of it. And as it is exceedingly difficult to reduce it to a sufficient degree of fineness in a mortar, M. Miatha recommends it to be prepared according to the following formula. Let a saturated solution of this salt be made in cold water and then precipitated with alcohol; the precipitate which is an extremely fine powder is to be collected on a filter and dried, ℥ij of this powder to be intimately mixed with ℥i cerat simplex. When we wish to employ this ointment we should be careful never to apply to an abraded surface as it would create an intense degree of irritation; and in strong form being absorbed, might be productive of the very deleterious consequences. The practice of some physicians of applying it to blistered surfaces to keep up the drain is highly injudicious. Dr Baker says in one instance that came under his notice the imprudent use of this article was very

very near destroying the life of an individual —
As a diaphoretic and expectorant Tart Emet is one of the most valuable articles we possess, in all those cases in which we wish to produce diaphoresis we may employ it with advantage with this view it should be given in doses calculated to make a decided impression on the heart and arteries and even carried to the extent of producing considerable degree of nausea, for notwithstanding what may have been said to the contrary, the good I am disposed to think that the good effects obtained by this article in such cases depends in great degree upon the nausea produced, I would not however be understood to deny that it does exert a specific power over the ~~inflamatory~~ sys vascular system yet knowing the close sympathy existing between the stomach and the great organ of the circulation, we think that no one can but admit that the greater the impression produced upon the one the more strongly will the other sympathize with it. As it does not possess any stimulant properties it may safely be exhibited in the most violent and inflammatory forms of fever. accordingly we find it

has been prescribed in all the different varieties of Phlegmasia
Desault recommends this article very highly in the cure
of Erysipelas especially that variety characterized by being
connected with hepatic derangement, his method of admini-
tering it, was to dissolve one grain in a considerable quantity
of water to be used as a ptisan, he says that the disease has
been frequently removed by it when there was no other mani
fest effects than an increase of the perspiration and urinary
discharge, But when the disease proved more obstinate, the
the exhibition of this remedy was continued until a decidedly
impression was made on the system, the febrile disorder & bitt
erness of the mouth disappeared when the cure was com
pleted by a mild purgative, With a view to obtain its
expectorant ~~properties~~ effects it should be given in smaller
doses than when intended to produce diaphoresis,
In most of the forms of chronic cutaneous diseases this
medicine has long been esteemed of great value, in these
affections it should be administered in minute doses and
the use of it continued for a long time, the precise mode
in which it proves efficacious is not determined, it is very

probable that it may exert a specific action upon the capillaries —

It is hardly necessary to advert to the Italian mode of administering this article, for I do not apprehend that the practice of the Rasorist will ever be followed in this Country, and even if it should be the case, future experience will prove its impropriety. —, With regard to Laennec's plan of administering it in pleurisy as a substitute for the lancet — whatever may have been his success I am certain it would not prove effectual in our climate, moreover as in bloodletting we have a certain and speedy means of cure I think it would be the height of folly to exchange it for a remedy which might sometimes cure the disease, much more might be said upon this important, but the limits of a thesis are too confined to admit it, even were it not the case, it is totally unnecessary as it has been so frequently treated of by many, who were far more able to do justice to the subject —

An

Inaugural Dissertation

on

Pneumonia Biliosa

Submitted to the examination of the

Provost, Trustees, and Medical Faculty,

of the

University of Maryland

For the Degree of Doctor of Medicine

By Walter B Williams

of Maryland

March 1833

Mount

On Pneumonia Biliosa

There is a modification of pneumonia which from the prominent symptoms of hepatic disorder which it exhibits along with the ordinary phenomena of pneumonic inflammation has been termed bilious pneumonia.

This variety of the disease which I have selected as a subject of my essay occurs during cold and variable seasons, in districts abounding in sources of miasmatic exhalation, It appears to be the result of the combined agency of these miasmata and atmospheric vicissitudes. The initial symptoms of this modification of the disease differs very little from those which usually usher in an attack of ordinary Bilious remittent fever. In some instances a sense of fulness and tension is experienced in the right hypochondrium a few days previous to the supervention

of the disease and occasionly dysenteric symptoms
occur before the fever commences, in almost
all cases considerable pain is felt in the
back and extremities during the premonitory
period, The skin from the beginning is
more or less tinged with bile, and the
conjuntiva especially, is often conspicuously ic=
=ode, the face is flushed, and a mixture of
red and yellow, upon close examination
betrays the existence of a disturbed state of
the liver, Acute pain in the forehead
is almost constantly present. The pain
in the chest is sometimes extremely
severe and pungent. But more com=
monly it is obtuse, and attended with
a sense of weight or oppression in the
breast, in some cases the fever continues
for several days before the pectoral
pain supervenes, the expectoration is
not very copious the sputa being of a

pretty yellowish appearance marked frequently with streaks of blood. When vomiting takes place, an occurrence very common in this affection, more or less of bilious matter is generally thrown up, although in some instances the secretion of bile appears to be entirely suspended. The tongue is first white with a yellowish streak along the middle, which as the disease advances, becomes dark brown and dry, the urine is always of a deep yellow or bilious colour, and the pulse is generally small frequent and quick with a slight degree of preternatural tension. Diagnosis= The most important diagnostic signs between pleurisy and peripneumony, are those obtained by percussion of the chest, and by pressure made on the abdomen, In peripneumonia

percussion made with the extremities of the fingers brought together in a line produces an obscure dull sound, which is best estimated by comparing it with the sound produced by percussion of the healthy side of the chest, In pleurisy on the contrary no difference can be perceived in the sound produced by percussion of the two sides of the thorax.

In peripneumonia from pressure on the abdomen with both hands so as to push up the diaphragm against the lungs almost invariable excites cough great oppression, and a sense of suffocation, whereas in pleurisy, no such effects result from abdominal pressure,

Then we find united in the same patient a clear sound of the painful side an percussive insensibility to abdominal pressure, smallness and rapidity of the

respiration, an increase of pain on full inspiration particular uneasiness on lying upon the affected side, and lastly pain upon firm pressure of the intercostal spaces of the affected side we have little reason to doubt of the existence of Pleuritic inflammation.

Peripneumony is characterized by an obscure heat in the chest, great efforts at inspiration in order to supply the suspended functions of one part of the lungs, increased suffering on firm abdominal pressure and a dull obscure sound on percussion of the chest, difficulty of lying on the sound side is generally mentioned among the characteristic symptoms of peripneumony, some assert that this observation is by no means generally correct, ~~but that~~ the most common position is on the back.

Prognosis: A copious expectoration of a thick uniform yellowish matter is one of the first and perhaps most encouraging indications of a favourable turn of the disease. When this symptom occurs in connection with an increased flow of sediment ~~[illegible]~~ urine, and gentle diaphoresis, we have good grounds for predicting a favourable issue of the disease more especially, if at the same time the oppression and pain in the chest abate, and cough is less troublesome

when on the contrary the pain and oppression become more generally diffused throughout the thorax; when the cough is tiring or attended with clots or red liquid sputa; when accompanied also with a sense of suffocation and great anxiety the countenance and lips become livid, and the pulse soft irregular and labouring

and finally, when delirium, coma and con=
=vulsions supervene, or a sense of coldness
is felt in the interior of the body, whilst
the surface is very warm the danger is to
be considered as very great

A rattling respiration lividity of the counte=
=nance are almost constant fatal indications
the supervention of diarrhœa in this
disease is a very unfavourable circumstance
The prognosis in pneumonia is nevertheless
attended with considerable uncertainty.

In the treatment of this disease bleeding
is the first and most important imme=
=diate means. The extent to which it is
to be carried must be entirely regulated by
the degree and obstinacy of the pain, and the
state of the pulse, whether the pleura
or the proper ~~state of the~~ substance
of the lungs be the seat of the inflammation
however a sufficient quantity of blood should

be drawn at once to make a very manifest impression on the pulse. The blood should be stopped to flow without regard to quantity until a diminution of the pain in chest as well as of the action of the pulse ensues. If the action of the pulse and the pain increase more blood should be drawn, to the extent of producing a decided impression on the system.

The blood drawn in these affections exhibits a thick sizy or buffy coat, on the surface a coagulum. and so long as the blood exhibits this appearance bleeding may be regarded as a proper measure, but on account of the disappearance of the buffy coat, as it sometimes takes place, the lancet is not to be sheathed as long as the action of the pulse, and any degree of pain in the chest remains. After the disease has been in a great measure subdued.

and venesection is no longer indicated.
Small and repeated doses of digitalis sometimes favours the reduction of the general and local inflammatory action
½ half a grain, in union with six or eight grains of nitre may be given every three hours until its effects on the pulse and stomach are manifest. —
Although gentle aperients are decidedly beneficial in pneumonic inflammation yet powerful and repeated purging is much more apt to prove prejudical than useful, small doses of one of the purgative neutral salts or of castor oil may be given, from time to time so as to keep up a regular but moderate action of the bowels.
Emetics in Bilious pneumonia may be accounted as among our most useful curative Richter asserts and in my limited experience

of the disease very correctly that emetics will often remove the pain in the chest as by a charm –

They generally bring on a uniform diaphoresis promote expectoration and allay the pain in the throat often almost immediately. They usually bring up an abundance of bilious fluid from the stomach

Cooling diaphoretics are very useful auxiliary remedies in these affections, nitrate of potash with minute portions of antimony, the pulvis antimonialis and the muriate of ammonia with a view both of diminishing the action of the heart and arteries, and of promoting expectoration.

The skin ~~must~~ should be kept soft with tepid, senga tea and as the system debilitates give wine camphor and opium or ~~some cordial~~

~~and~~ carbonate of amonia may be given to keep up the expectoration and support the strength

Expectorants may be employed with advantage after the violence of the ~~disease~~ ~~of the~~ inflammation has been ~~moderated~~ reduced by blood-letting, opium and tartar emetic, will assist in establishing expectoration, The patient should be allowed the free use of demulcent drinks such as barley water flaxseed tea &c

Blisters are among our most valuable means for subduing pneumonic diseases, as soon as the firmness and activity of the heart have been reduced a large blister should be applied over the region of the affected part, When there is reason to believe that expectoration of a portion of the lungs has taken place benefit may be obtained

Some times by external irritating applications, frictions with tartar emetic ointment, seatons and caustic issues are also useful; or continued blistering with Spanish flies, Internally advantage may probably be derived from small doses of Muriate of Mercury in union with belladonna or conium, one tenth of the Mercurial with from 2.3 grs of Ext of Conium, When suppuration has occurred the strength of the system should be supported by ~~[illegible]~~ nutritious diet. opium but the more diffusible stimulants must be avoided

An Inaugural dissertation
on the
Function of the Spleen

Submitted to the examination

Of the Faculty of Medicine

Of the University of Maryland
By Charles E. Isaacs.
for the degree of
Doctor of Medicine
Baltimore, March 8th
1833

There is no subject in Physiology involved in so much obscurity as that which relates to the function of the Spleen.

In confining their investigations to an examination of the structure of this organ, Anatomists have failed in discovering or in satisfactorily explaining its use; their observations for the most part are extremely vague and in almost every instance perfectly at variance with each other.

It only requires a rapid view of the doctrines of a few of the most intelligent investigators to be convinced of the truth of our assertion.

Previously however to noticing these opinions we shall state a few of the circumstances relative to the intimate structure of the part on which Anatomists are agreed, and which can be easily demonstrated.

The Spleen is covered not only by the peritoneum but also by a strong fibrous coat proper to itself; from its internal surface a large number of filaments or threads pass to the opposite side and interlace with each other in a very complex manner, and by this means form cells, in which are deposited the proper substance of this organ.

This is a very soft and pulpy substance and seems to be of a peculiar nature, at least we do not perceive anything similar to it in the other viscera – it has given rise to much diversity of opinion, Meckel thinks that it does not form a constituent part of the structure of the Spleen, but is only the blood changed by the action of this organ – some have supposed that it is formed by the combination of albumen and other elements with the blood of this part. Vauquelin says that less colouring matter and fibrin, and more albumen and gelatine exist in the splenic blood than in that of any other organ.

In opposition to these opinions we may state that of Ruysch. This anatomist who perhaps has never been surpassed by any of the present day for the success and minuteness of his injections, stated that the Spleen was entirely composed of vessels.

Sömmering also believed that it was simply vascular, (Wistar.) Malpighi endeavoured to unravel the structure of the Spleen in various modes – he came to the conclusion that this organ contained cells communicating more freely with the veins than the arteries – they

also described (what indeed appears to be generally admitted by Anatomists) certain white bodies or vesicles as existing in the Spleen, Meckel and Sir E. Home both described these bodies and it is stated by the latter that they swell much in animals after drinking. Herbert Mayo says the Spleen contains a great number of white bodies or vesicles of the 6th of a line and upwards in diameter, whether they are cells containing an opaque fluid or glandular ~~molecules~~ is not determined, we may therefore consider the weight of authority in favour of their existence, but their use is unknown — that which Sir E. Home formerly attributed to them is disproved, not only by the experiments of many Physiologists but by his own, and he has in consequence retracted his opinion.

The nature of these bodies is as obscure as their use., "Sir E. Home does not think that they form an essential part of the structure of the Spleen, but that they are globules of lymph and mucus — He says that on maceration they are completely dissolved and in one case no globules or cells could be detected — The opinions of this Author is somewhat singular, he regards the Spleen as a congries of Blood vessels, and

absolutely having no cellular substance existing between them, the veins have lateral orifices through which the blood merely exudes except when the vessels are distended when they become pervious. this arrangement seems to be very evident in the spleen of the Ox, I have examined the spleen of this animal several times and have never failed to find the appearances which this Author describes. –

I have repeatedly dissected the human spleen in order to ascertain this point, but have not been able to determine whether this arrangement does ~~really~~ exist.

If this really is the case, it might then become a question how the blood was returned into the circulation, as it must be actually extravasated in the substance of the spleen. It would seem that further experiments are ~~necessary~~ wanting on this subject – might not the examination of the spleen in other large animals throw some light on its function? It appears ~~reasonable~~ to think so as all the parts entering into the composition of the organ are large and consequently of more easy examination, and the substance is more firm

and not so quickly broken down by injection.

We shall mention only one more opinion relative to the structure of this part. Beclard has arranged it in his class of erectile tissues such as the Clitoris, nymphæ &c.

We might adduce the observations of many other anatomists on this point, but it would be of little utility, inasmuch as they are at variance with each other and with those already enumerated, ~~they all~~ failing to arrive at any satisfactory conclusions ~~and~~ where there has been so great a diversity of opinion and where the investigations have been made solely with regard to the structure of this organ,

We have preferred to devote our examinations of this important subject particularly in reference to the results that have happened from the extirpation of this viscus deducing in the course of our remarks such conclusions as may be inferred from the various phenomena observed. It was natural to suppose that the removal from the system of an organ whose functions were obscure would tend to elucidate them. — If by removing a part from the system certain

appearances always observed in the healthy state are no longer present, and symptoms of disease quickly appear and terminate in the death of the animal, we then know that we have extirpated a part of immediate and vital importance, and we have reason to believe that those phenomena which were present in the healthy state, and are now wanting constituted the function of the part removed.

In order that we may be more fully understood we shall adduce as an example the extirpation of the kidneys, here we ~~should~~ shall find that the secretion of urine a function always present in the healthy state, is no longer performed, consequently we should suppose, even although we had no other proof that this is the function of the part extirpated, The morbid phenomena also assist us in discovering the use of the organ, we find that urea a principle always existing in the healthy urine is retained in the system and gives rise to fatal consequences. This principle is so injurious that no other organ is capable of eliminating it from the system, although it still separates from the blood as if nature had exerted all her efforts to pre

serve life, although we find no other ~~organ~~ viscera capable of perfectly assuming the functions of the kidneys, because their secretion is peculiar, yet this is not the case with all the organs, some parts can perform the functions of others to a certain extent. If we extirpate the spleen a large & vascular organ we should a priori anticipate ~~fatal consequen-~~ the apparent loss of some function, together with the most injurious if not fatal consequences.

Many who have performed this operation, and found no remarkable phenomena to accur or derangement of any function, have erroneously concluded that the spleen was of no use at all, because say they if so large an organ did perform an important ~~function~~ office it could not be removed with impunity, and they knew of no other which could perform for it a vicarious function.

We hope to be able to explain this difficulty hereafter. This operation has been performed from a very early period not only in animals but on the human subject in cases of wounds or accidents.

Pliny affirms that the spleen was taken

out in men who wished to make themselves swift in running (Dunglison) — this idea is to this day very prevalent among the vulgar.

Dr Blundell in his Physiological & Pathological Researches, relates two cases in which the human spleen was successfully removed, one was that of a ~~[illegible]~~ soldier who was wounded by a sabre in the left side. The spleen protruded and lay out of the wound for several hours covered with dirt. The man recovered and did not afterwards seem to experience any inconvenience from its loss.

The other case is quoted from the dissertation of Dr O'Brien of Edinburgh in which the wounded & bleeding spleen lay out of the wound five days — Ligatures were placed on the vessels, and it was completely taken away on the 20th day. The man was discharged on the 45th cured and remarked that "he felt as well as ever he did in his life"

John Hunter is said to have extirpated it in a wounded man, he perfectly recovered (Paris) Dr Powell of this City formerly of Kentucky relates a case in which

he extirpated part of the Spleen – the patient recieved a wound in the left side which allowed of the protrusion of part of the organ, it was included in a ligature & then cut off. the usual remedies were used to subdue inflammation, and at the end of nine months he was then ~~enjoyed~~ enjoying excellent health – (Amer. Jour. Med. Sciences – Vol 11. 1828 –) Charles Bell relates a case in his anatomy in which a Pupil of his removed the Spleen in a native of South America. it had escaped from a wound and became gangrenous. He observed no particular effect to result from the operation.

These cases are of a most interesting nature even in a surgical point of view. they are also useful in showing the strong analogy between the function of the human spleen and that of inferior animals, the subject of our experiments. – They show that inferences drawn from these may be safely applied to the human subject, as in both the same results are observed to occur from the operation.

It is much to be regretted that we cannot obtain

the whole history of these cases. The symptoms observed during life, and the post mortem examinations might have thrown much light on the subject.

It is probable however that the appearances on dissection are similar to those which have been observed in the inferior animals, And we shall now proceed to relate some of the phenomena which occurred in these after extirpation of the spleen.

It may be previously remarked that authors do not agree as to the symptoms which occur after this operation, and we shall presently see the causes of this diversity of statement. The main danger after the the operation is from inflammation of the peritoneum and if from the usual neglect of depletion this does not soon terminate fatally, it is very liable to become chronic There is reason to believe that symptoms arising from this circumstance have been attributed to loss of function of the extirpated organ. That the effects of disease might easily be mistaken for this circumstance will be very evident when we consider that the inflammation, may exist for

a long time giving rise only to a slight degree of functional derangement. Thus Dr Blundell relates two cases in which he removed the Spleen from rabbits both survived the operation but after a short time began gradually to decline and died, one three and a half months after the operation, the other six months, dissection showed inflammation of the peritoneum, effusion and cysts in the region of the Spleen filled with pus.

I shall in this place relate two cases of extirpation, which although they do not throw any light on the function of the spleen, yet as they are attended with some remarkable circumstances, and may serve to point out a source of fallacy to which we are exposed in drawing our conclusions from the results of experiments it does not seem right to pass them over.

In a dog apparently healthy I removed the Spleen, the vessels were tied with animal ligatures, then divided, and the organ completely taken away. The wound was closed by sutures passed through the peritoneum & muscles. Before and during the performance of the operation

the pulse was quick and regular, immediately afterwards it became very slow and full, but in a few minutes small and so frequent as rendered it impossible to be counted (I would here remark that I have observed this state of the pulse to occur in five cases in which I removed the spleen) This animal lived only a week and died with all the symptoms of peritoneal inflammation, on dissection, the peritoneum lining the abdominal muscles was inflamed, Bloody serum mixed with flakes of coagulable lymph, the omentum highly injected and it contained the ligatures which secured the splenic vessels, the peritoneal coat of the stomach much inflamed especially at the point where the ligatures were placed, (the right Kidney) appeared to be enlarged, on removing it from its situation and carefully laying it open it was found to contain a worm flat and 1/4 in. in breadth and 2½ feet long, the internal portion of the Kidney with which it was in contact was almost of a cartilaginous consistence, I carefully examined it lest it might be a fibrinous formation but it

real nature was too evident to be mistaken. It must have been there for some time, as the thickening & induration of the lining membrane was evidently caused by irritation arising from its presence. How it came in this situation is not easily to be explained, and it is still more difficult to conceive how it could have maintained its vitality when exposed to a secretion so acid as the urine. But I must not digress — The other dog from which I removed the spleen was an unfavourable subject for the operation, he had a sickly, languid appearance, the pulse was intermittent and irregular & the respiration slightly embarrassed. The spleen was removed in the same manner as the first, the dog lived only seven or eight days. The usual signs of inflammation were discovered on examination, but not to so great an extent as in the former case, on observing the heart (which externally appeared natural) the right auricle & ventricle contained several worms, these were white and about the length and size of a knitting needle, they were alive when taken out. Their presence in the heart we should suppose

would have created much more derangement of its function than it really did, their existence in this ~~light~~ organ is perhaps as difficult to be accounted for as in the former instance. Time will not permit us to say any thing more respecting these curious phenomena. In both these dogs there was nothing remarkable observed in the other viscera.

The Liver in both cases appeared healthy and the Gall Bladder moderately distended with bile. In the case of a bat from which I removed the spleen and which died about ~~ii~~ week after the operation nothing remarkable was observed on dissection except the usual signs of inflammation.

In these two cases it is easy to perceive that if these animals had recovered from the peritoneal inflammation, the presence of worms in such important organs, could hardly fail to develop occasional morbid phenomena. The cause not being suspected the symptoms would be erroneously attributed to the loss of function of the extirpated spleen. It is not improbable that many accidental circumstances of this kind as well as disease have caused these appearances which several Authors have

noticed, viz. impaired digestion, great debility diarrhoea, increased secretion of urine &c. — —

We do not find that these results have generally been observed, and were they to result from the loss of the spleen alone should always be met with. This is not the case and it would be better not to draw our conclusions too positively until we have fairly ascertained, by post mortem examinations that these phenomena could not have been produced by accidental causes.

Many Physiologists have remarked that after extirpation, the bile is much altered in its physical properties. Mead & Mayer say that it is watery (Dunglison) Blumenbach says that it is pale and inert. Richerand says that it is less yellow, bitter & appears to be very imperfect, others have remarked the same thing, and in one dog after removal of the spleen this was certainly the case, this animal perfectly recovered after the operation and at the end of one month had increased in size, the digestion was good and seemed to be more rapidly performed, the appetite considerable and perhaps voracious

the evacuations were natural, in activity or playfulness I could observe no difference in him from other dogs. At a little more than one month from the operation he was killed with Prussic acid - as he had been fed some time before the admistration of this poison, I tied the thoracic duct as soon as respiration had ceased; in order to examine the Chyle more satisfactorily - on opening the abdomen the lacteals were seen beautifully distended with this fluid. The stomach was prodigiously enlarged and filled with food partially discolored. The small intestines had chyme in them of the usual appearance, - the colon contained fecalent matter possessing the natural properties. - It was remarked by several who witnessed the ~~operation~~ dissection that they had never seen the liver so red, it was in fact almost of the colour of arterial blood - the bile was much thinner than usual of a lighter colour and almost transparent after standing for some days it deposited a very copious sediment. The omentum contained more than its usual quantity of fat and had formed a slight adhesion to that

portion of the peritoneum lining the muscles through which the incision for the removal of the Spleen had been made, I carefully examined this part of the serous membrane and found it completely united – it was difficult to find in it the place of incision. – the external wound had completely healed, not the least trace of inflammation could be detected in any part of the abdomen.

In the course of half an hour the lacteal vessels were empty and the thoracic duct greatly distended with chyle, I collected a considerable quantity of this fluid & found it of a very pure white colour, on exposure to the air it partially coagulated, but did not present the slightest shade of that rose colour which Magendie and others say is possessed by healthy chyle. the appearances of this fluid agree with the observations of Tiedemann & Gmelin – they state that the chyle after removal of the Spleen is always whiter than before and possesses very few red particles. In the case I have just mentioned there was not the least appearance of any. they also assert that the mesenteric glands are enlarged. this was not the

case in the present instance, Siedman & Emlin say that the white colour of the chyle is to be ~~[illegible]~~ attributed to the want of a certain reddish fluid from the lymphatics of the spleen and which when that organ is present, is conveyed by them into the thoracic duct. They conceive that this fluid is secreted by the spleen and that its use is to convert the chyle into blood "or to animalize it in such a degree as to render it more similar to blood" — this office it is easily ~~con-~~ ~~ceiv~~ seen must be one of primary and vital importance to the system and we should suppose that when interrupted or destroyed that the greatest derangement in all the functions would ensue and we fatal consequences be the inevitable result. Should we not find also that the blood would exhibit some marks of being imperfectly animalized, that owing to the loss of the red particles it would be paler in its colour and afford less coagulum. So far from this we find that the blood presents its usual red colour, that it is not different in its appearance from other blood, and that the functions of

nutrition and secretion to which the healthy constitution of this fluid is absolutely necessary are still performed with their usual vigour and regularity. Tiedman & Gmelin have attempted to overcome these difficulties by saying that the mesenteric glands take on a vicarious office and perform the function of the spleen. This they are enabled to do say they in virtue of their similarity in structure. Thus in their views the spleen is a great lymphatic gland, and is ~~[illegible]~~ closely connected with the absorbent system.

Although we cannot conceive in what manner the firm and dense structure of ~~the~~ a lymphatic gland resembles the soft and spongy substance of the spleen, we shall not stop particularly to consider this point, but shall inquire in the first place whether this vicarious office is performed by the glands as has been stated. In order to ascertain this we must consider the appearances of the chyle in its natural and healthy state. Magendie & Barrat state that the chyle taken from the thoracic duct of a

healthy animal is at first white and fluid, but upon recieving it into a vessel soon coagulates and seperates into three parts one of these is solid and sinks to the bottom of the vessel. It is combined with red particles which give the chyle a reddish tint the other is similar to the serum of the blood. Tiedman & Gmelin assert that the chyle does not coagulate before passing the mesenteric glands but that it does so immediately afterwards and especially after it has recieved the reddish fluid from the spleen which contains much fibrin, ~~and~~ also gives the chyle its red colour

Now we have seen that when the ~~[illegible]~~ spleen is removed that the chyle does not present its ~~red colour~~ usual appearances it does not assume the reddish tint nor exhibit the usual coagulum. Now if the mesenteric glands perform a vicarious office it is evident that this office will be to afford the fibrin and red colouring matter furnished to the chyle by the spleen. As Tiedman & Gmelin have assigned such importance to these principles it is evident that if the mesenteric glands do not furnish them, — then must the animal (accor

ding to this theory inevitably perish. Now what are the facts? The animal suffers little derangement of function as we have seen (~~as we have seen~~) and the fluids which the glands should supply for the lost function of the spleen are entirely wanting when indeed they should be increased in quantity. We conceive that this does not look like vicarious function, nor we are to allow that the mesenteric glands did possess the power attributed to them, we must suppose that a considerable time must elapse before they could take on ~~additional~~ sufficient action to perform their additional office in the interval the animal would inevitably perish. It has indeed been said by Liedman & Gmelin that the glands do become enlarged but we did not observe this appearance in the experiment above related and even if they should it may justly be questioned whether it were not the consequence of disease from the operation — We might notice some other arguments which the German Physiologists have advanced but they are not even

as plausible as those previously adduced.

We shall say no more of this Theory, it is certainly ingenious and has been advanced by men of the greatest celebrity, and for whose opinions we entertain the greatest respect — we however cannot agree with them and so far as we have seen they have adduced only one experiment to support their Theory.

I shall now return to the ~~examination~~ consideration of some of the appearances noticed on dissection in the last experiment. The stomach we have said was much enlarged and greatly distended with food — The course of the increase in the size of this organ seems to be satisfactorily explained when we reflect on the relations which naturally exist between all the abdominal viscera and the constant changes which they undergo during the process of digestion. It is well known that all the acts of this function are successive and the state of the circulation in these organs constantly varying from the relaxation of one and the distention of another. The stomach filled with food (say authors)

presses on the spleen ~~the blood enters the spleen~~ the blood enters this organ in less quantity than usual its volume is diminished and the blood in its veins passes more quickly to the liver, when the contents of the stomach have passed from the pylorus this organ recieves less blood and that which formerly circulated in it, is determined to the spleen &c — after extirpation of this organ this relation is distroyed the stomach continually recieving a supply of blood equal to that which it usually obtains only when distended with food, it is reasonable to suppose that its nutrition will be increased, that its powers will be augmented & digestion more rapidly performed, on this account it will be easy to explain the great rise which this organ presented, in this case as well as the great voracity which some authors have stated to occur after this operation, It would then appear that one office of the spleen is to regulate the quantity of blood circulating ~~the quantity circulating~~ in the abdominal viscera and prevent too great a quan

tely of nutritive matter being formed and thus offend the system, the former opinion has been advanced by several authors, and we consider it as at least very probable. The great amount of blood which is determined to the stomach and other viscera after removal of the spleen, would seem to induce in the first place ~~the~~ an increase in the nutrition of this organ, it becomes as it were hypertrophied and its powers of secretion seem to be greatly augmented. In all the cases which I have been able to obtain ~~which~~ where these animals have lived for some years they have died of inflammation of the peritoneum.

Now it would appear that this ~~via~~ circumstance was caused by the constant and excessive determination of the blood to the other viscera which resulted after extirpation. We shall in this place refute a theory which has been supported by many Physiologists and which has made the spleen subservient ~~to the~~ in function to the liver.

Richerand in speaking of the liver says-

"the spleen performs preparatory functions & may be considered as the auxiliary of the liver in the secretion of bile." This has been the opinion of many Physiologists, In proof of this he asserts that the bile is imperfectly secreted after the removal of the spleen, and we have seen that this was the case in the experiments above related. It has been demonstrated by many Physiologists that the bile was secreted from venous blood and it is well known that the splenic vein is the largest branch of the vena Porta. The bile abounds greatly in Hydrogen & Carbon & these principles would seem to exist in the urine of the spleen in larger quantity than in that of the portal branches. thus it is remarked that it is darker & much more fluid. Bile in its healthy state performs several important offices, and in order to comprehend the subject more fully we shall adduce the experiments of some Physiologists on this point and the conclusions to which they have arrived. Mr Brodie ascertained that

when the Ductus Communis was obstructed in an animal by a ligature, that no chyle was formed although chymification went on as usual and Herbert Mayo says that after tying this duct no trace of chyle could be found in the lacteals later Researches of Tiedman & Gmelin have shown that these experiments were fallacious, they found that the chyle after ligature of the common duct was found in as great abundance as usual and they observed that after tying the duct it was never white, they say that the white colour is produced by the solution of the fatty part of the food by the bile &c — and suppose that the only use of the last mentioned fluid in chymification is to effect the solution of the fatty matter Leuret and Lassaigne have remarked in confirmation of the views of Tiedman & Gmelin that the chyle is found in its usual quantity after the tying of the common duct and presents all its common properties. the uses which Tiedman & Gmelin have assigned to the

bile in addition to those mentioned above, are, first that it stimulates the intestines and increases their peristaltic action, 2nd, It increases the ~~secretion~~ secretion of the fluids of the alimentary canal. 3rd It supplies azote to those parts of the blood which have not been sufficiently animalized, and it does this by reason of the great amount of this principal which it contains. 4th They suppose that it prevents the putrefaction of the internal matters which have been too long retained.

Lastly they have advanced the opinion that the Liver performs the important office of aiding the lungs in decarbonising the blood, - They prove that a great part of the bile is thrown out as excrementitious matter, &c. in the form of a yellow colouring matter - and these principles are well known to contain a large ~~portion~~ amount of Hydrogen & Carbon, They have adduced many arguments in favour of these opinion, which are drawn from comparative Anatomy and from observations made upon certain pathological states of the system - Time will not allow me to ~~adduce~~ to adduce the proofs which they have advanced, but

there are many, and have we conceive successfully established the truth of their propositions.

We have thus seen from these experiments that the bile performs many important offices, it exerts an extensive influence over the progress of digestion & is the means of freeing the system from a superabundance of those principles which if retained could not fail to be injurious to the health of the individual. This being the case we should suppose that when the spleen was removed and consequently a great portion of the blood from which the bile is secreted taken away, that the digestive function would be disordered and the whole system suffer greatly from the retention of these principles naturally thrown off in the biliary secretion. Why then is this not the case?

There indeed has been the greatest difficulty with those who advocated this theory, we should state what appears to be fairly deducible from the phenomena observed. In the first place we conceive that those who have advocated this opinion have not suf-

ficiently explained in what manner the Spleen assists the Liver in the formation of bile, we are of opinion that only a small portion of the bile is useful in digestion Tiedman & Gmelin satisfactorily show that the greatest part is throwoff as excrementitious. It does not appear to us that the Spleen by its venous blood furnishes any principles to the bile which are afterwards of utility in the digestive process. If this were the case that function from the loss of those principles would certainly be deranged. so far from this it is more energetic

The only remaining use that can be ascribed to the ~~use of the~~ Splenic blood is that it is entirely excrementitious that it assists the liver sucrely in throwing off hydrogen & carbonaceous matters from the system. These it is well known are deleterious when retained

That this is one use of the Spleen we infer not only from the dark colour of its blood but also from the appearance presented by the Liver in the experiment above related, this organ we have stated was of a bright red colour, was not this evidently owing to the

want of Hydrogen and carbonaceous matters from the spleen? we think the inference is just & that the light coloured appearance of the bile is to be attributed to the same circumstance. It might be objected in opposition to this explanation ~~that~~ after extirpation of the spleen, the Hydrogen and carbon which naturally are conveyed to the Liver and thrown off as excrementitious will now be retained in the system & as they are injurious and effete ~~matter~~ principles why it may be asked do they not give rise to the most disagreeable & even fatal consequences? This question we conceive is ~~readily~~ answered by appealing to the results of experiments. As we have previously stated animals some time after extirpation have grown exceedingly fat & some have even died of obesity, we shall adduce cases to prove the truth of our assertion. Hoffman asserts that when the spleen is removed from dogs they rapidly increase in fatness (Paris) Herbert Mayo says he extirpated the spleen from a dog & that it lived two years afterwards, it became during that time much

fatter than before and died of peritoneal inflammation, the omentum was an inch thick with fat.

Prof. Coleman made several experiments on dogs and found that they became very fat and indolent. (Bell.) Dr Powell of this city extirpated the spleen in three or four cases of dogs and found that they died in about four months of obesity. In one experiment which I made, at the end of six weeks the animal appeared to be increasing rapidly in size, but as it ran away I cannot state what would have been the final result. In that which I have mentioned in this paper the omentum contained more fat than usual. Chemical analysis proves to us that this secretion (fat) is composed of Hydrogen and Carbon. Do we know that these principles when retained in the blood are injurious, is it not more than probable that by throwing them off in the form of fat, the system is preserved from disease and death? We think that this is the only mode by which we can account for the health of the animal becoming so little impaired by

the removal of this organ — It is not improbable however that part of the fat so copiously deposited results from the great increase of nutritive elements introduced into the circulation in consequence of augmented energy of the digestive organs. — But although nature abounds in her resources she cannot wholly supply the loss of an organ not indeed of immediate importance, but certainly one which contributes to the health & regularity of several important functions, inflammation from the over excited state of the viscera finally ensues and the animal dies from the want of an organ too much abused and too little understood. But these are probably not the only use of the spleen. Prof Rush has given a theory to the world which is too well known to require any comment, he supposes the spleen to be a sort of waste gate or reservoir to provide against any irregular or violent action of the circulatory system. His arguments are ingenious & his theory has certainly the ~~most~~ merit of practical utility the only solid objection I can see against it is that after extirpation we don't find that animals suffer from

causes inducing violent and irregular determination of blood. This however has never perhaps been sufficiently put to the test, and further experiments are evidently wanting — It was my intention to have spoken of all the different theories worthy of notice & have adduced the facts & inferences which might be drawn from Pathology & comparative anatomy. —

I have much to regret the want of sufficient time and opportunity to have pursued this interesting subject, and the small amount of facts which it has been in my power to collect. It is my intention however to continue the investigation. —

I am aware of the hurried and imperfect manner in which this essay is written, want of experience in writing and of sufficient time must be my apology. Should it be thought worthy of acceptance my object will be accomplished. —

An
Inaugural Dissertation
on
Chlorosis,
Submitted to the examination of the
Provost, Trustees and Medical Faculty of the
University of Maryland,
for the degree of,
Doctor of Medicine;
By
Otho L Smith
of
Maryland 1833.

To

William D Macgill M.D.

My friend and former Preceptor:

This tribute of respect is justly due:

By the

Author.

To

The Medical Faculty of the University of Maryland.

In dedicating the following treatise to you, although little in itself, I am performing an act of gratitude to a Faculty, under whose guidance I cannot help considering myself as ~~being~~ peculiarly fortunate in being placed.

I sincerely respect your talents; and the indefatigable attention you have paid the institution, to which I have the honour of being attached. Permit me then to offer this, the first fruits of your instruction, for I have especial pleasure in thus testifying the obligations, which I owe to you, for the kind instructions, at all times imparted to me. This is the only public mark of my acknowledgement, while my heart shall in secret continue to pay you a dearer, and I hope more lasting tribute, Gratitude.

The

Author.

Introduction.

It being the lot of few, compared with the great mass of the medical world, to be placed in a station, that may facilitate in any considerable degree, the attainment of medical knowledge; Therefore all methods fallen upon, to advance, and hasten the improvement of medical science, are doubtless laudable, and should merit the approbation of the followers of Esculapius. The utility, and importance of propagating that which was taught us by the antients, although faulty in many respects: but, at the present day, by the moderns, improved, must doubtless be obvious to all, who are entrusted with the health and lives of their fellow beings.

A sense of my deficiency, to give any thing like novelty, in the present treatise; urges the propriety of my making some preparatory remarks.

I, being nothing but a mere tyro in the study of medicine, would not presume to offer this dissertation ~~to~~ as a developing the present obscure disease.

&c &c

Author.

Chlorosis.

Chlorosis from χλωρος - Green, Pale, and is a derivative from χλοα Vel χλοη - Hence the Greeks called it χλωρωσις et χλωρασις: evidently applied to the disease, as we apply our own common terms Greensickness, from the Pale, Lurid, greenish orange cast of the skin.

This is a disease peculiar to young females, and generally takes place about the period of the commencement of Menstruation: It is a disease, about the Pathology of which Medical Authors, and even our most diligent and observant Pathologists, have said but little.

The Causes and Pathology of Chlorosis, appear, at the present day, to be involved in the deepest obscurity. We are convinced, it attacks both sexes: but by no means in an equal ratio; the robust and the delicate fall victims to it. And it would be for the honour of Medical

Science

sciences, if we could with labour unfold its Pathology.

Notwithstanding, it is our intention in the present dissertation, to inquire into the Pathology, and treatment of Chlorosis. We will in the first place, enumerate the many fold symptoms that accompany it together with its many predisposing and exciting causes.

Symptoms.

This disease most frequently and usually commences with languor and lassitude: an indisposition to motion or exertion; but little animation, with a depression of spirits. The stomach, is greatly deranged in its functions, and various symptoms of dyspepsia superveene, such as heart burn, nausea, acid eructations &c appear: The appetite for natural food is very much diminished, and a depraved appetite for indigestible substances, such as

as chalk & slate earths ensue.

The symptoms of dyspepsia, which frequently and usually attend on this disease, must be owing to that great sympathy, which exists between the interesting organ the Uterus, and the all important viscus the stomach: For we may see, with little observation; in every days occurence, that sympathy which takes place or ~~[illegible]~~ at regular intervals, when impregnation of the Uterus is about to take place or supervene.

The patient complains of considerable pains in the loins and head, and frequently of all the muscles in the vicinity of the abdomen; and occasionally of the limbs. The respiration becomes, upon the least exertion, short and laborious; in climbing or ascending a pair of stairs or any declivity - and in fact all quick, and rapid motions of the body, causes the Heart violently to palpitate.

The antient Physicians

hence syncope frequently supervenes.

The antients Physicians, though accurate observers, were weak reasoners on the appearances, and phenomena, of the Human Body; it no doubt was owing to their false Physiology. Their inaccuracy is, in nothing more conspicuous, than their Hypothesis is, on the present subject. They supposed the palpitation of the heart, was owing to the struggling of the organ, against the Vena Cava and Aorta, which were oppressing it with gross blood and air, which should have passed to the concealed Arteries.

The bowels, will almost always be found, to be irregular in their evacuations; and greatly inclined to constipation; and at the same time much flatulency, with eructations from the stomach. The urin in these cases is limpid, and after some time becomes turbid. The countenance, and in fact the skin, over the whole body,

exhibits a pallid and sometimes nearly white appearance; more frequently sallow: and in the advanced stages, a slight greenish orange tinge is observed: This peculiar appearance, doubtless, is owing to a quantity of Bile, being diffused through the system, in company with the blood. The lips loose altogether their redness, and become almost transparent. The eyes take on the appearance of Pearl.

The face becomes tumid, with a puffiness of the upper and lower eyelids in the morning; this is owing to an effusion of serum in their cellular structure, during the night. The lower lids are frequently encircled with a streak of a dark or leaden hue: and in many instances they exhibit a chloride appearance. As the disease proceeds slowly in its course, the whole body, as we above stated, becomes pallid, more especially the hands, fingers and feet; they

Present

present a transparent, puffy and flabby state.—

The disease proceeding in this slow manner; the legs and feet are seen in the morning greatly swollen and Œdematous: at length the whole body becomes anasarcous.

The tongue now is, pale and flabby, covered with a transparent mucous, and also with enlarged papillæ, swollen and bloated: The edges are greatly indented by the pressure of the teeth: and at times, the mucous membrane is entirely destroyed; but it is frequently partially so, and in patches: The gums, and internal surface of the face cheeks, are paler than natural; and the breath is, most generally foul.

The mind becomes weak under the influence of the disease; the patients becomes drowsy, peevish, with but little spirit. Headach, ringing or noise in the ears and vertigo are common symptoms. In the more acute cases of Chlorosis considerable pain is experienced in the Hypochondriac regions

But we will say more, when speaking of the Pathology of this obscure, and impenetrable disease. All the symptoms of Chlorosis occur, occasionally, when the monthly discharge continues to flow, at the regular, desired periods. Many of the symptoms are frequently observed: in which the colour of the skin, the most characteristic symptom of Chlorosis, is not present, nor a suspension of the Catamenia. But a suspension of the Catamenia when Chlorosis takes place, is a most common occurrance. Indeed whatever acts powerfully upon the nervous system of the female, and is concentrated in the Uterus, will cause a suspension of the Menstrual flux. For instance chronic diseases, that will destroy the healthy equilibrium of the body. But it is generally and chiefly about the period, when the discharge of the menses first appears, or when it has appeared partially, but not yet attained its regularity; that this ~~disease~~ affection of the Uterus, which induces Chlorosis, is readily excited.

Way

Why the body at this period should be easily ~~at~~ diseased, would be impossible for me to explain satisfactorily.

Causes.

We will now commence to enumerate many of the causes, which may give rise to Chlorosis. The general and most frequent causes, are retained and suppressed menstruation; and an inability to obtain the object desired, or in other words Love sickness. Dr Parr doubts if such a cause as loversickness ever gave rise to Chlorosis. But Dr Good says "the examples, in Medical Records, are too numerous to give countenance to any such doubts upon the subject. Whatever contributes greatly to disturb the digestive functions at the period of the Menstrual flow, tends, very much to produce a Chlorotic condition of the body; hence the causes of this disease are numerous. Previous diseases that have existed for a length of time; sedentary habits of life, without

with but little exercise; grief and other depressing passions, are frequent causes of this disease. The habits therefore of all conditions of society are favourable to the production of the complaint. The crowded and close streets: the small unventilated apartments in which young females of the lower class occupy, in sedentary employments: they scarcely ever enjoy the benefits of fresh and free air; together with many other privations; render this class of females very liable to an attack of Chlorosis. And to use the words of an intelligent physician "We cannot be surprised that young ladies of the highest rank, should suffer equally: eight months out of the year they sit on thick carpets, in close rooms heated with register stoves: have large fires kept in their bedrooms, never stir out except in their close carriages: and often too much restricted in their diet. The extreme irritability, induced, by ~~such~~ the above mode of Living,

not

not only brings on the Chlorotic ~~symptoms~~ state; but after the least exposure to damp, or cold air, renders them all liable to be affected with pains and inflamation of the bowels; Rheumatism head-ach, Catarrh, Phthisis Pneumonia &c."

Luxurious living or a very sedentary life, may have produced a plethoric, unhealthiness of the constitution, incompatible with the performance of the natural functions of the Uterus, and thereby induce a Chlorotic condition of the system.

"The Mimosis Decolor says" Dr. Hall, is the prevaling affection of those females, who, in manufacturing towns, are doomed to sit from morning till evening at the Lace frame, or the tambour, or engaged in mending, seaming, shewing &c. unwholesome food; indolence, and want of cleanliness, is especially calculated to bring on the disease. Unsatisfied sexual desires are supposed by many not unfrequently to be the source of Chlorotic affecti-
-ons.

There is frequently, a distressing cough attends this diseases, when thus far advanced: sometimes with symptoms of suffocation, as if effusion had taken place in the lungs; and almost universally, a sense of fluttering about the Precordia is experienced by the patient. The bowels are generally lazyid as before stated; but with occasional attacks of Diarrhoea and griping: The feces present, always, an unnatural appearance, arising from a derangement of the biliary apparatus.

The Catamenia, generally becomes early deranged; and very frequently the menstrual flux is suppressed before the occurrence of the Chlorotic symptoms: Hence by the females themselves, all the symptoms of Chlorosis are attributed to Amenorrhoea, when it precedes the principal disease. Notwithstanding the erroneous opinions of these: We have at the head, the immortal Cullen: whose words are "Chlorosis hardly ever appears separate from the Retention of the Menses,"

But from the attentive observation of many antient, and modern authors, such does not appear to be correct.

In this condition of the body, we find very frequently, some of the most important viscera of the body, becoming morbidly affected; as the stomach, liver & spleen, seperately or simultaneously: They run on in this insidious manner for some considerable time: but at length the functions, generally begin to fail: the Patient becomes tabid, dropsical and at last dies, which closes the scene.

It would, from many of the above enumerated symptoms, appear, that the disease is always attended by an extreme degree of debility or atony of the whole system, and especially of the circulatory system: Hence it is asserted, the languor and lassitude, and pains in the muscles, specially upon being exerted: The imperfect secretions of the liver, stomach and intestines, which give rise

to many

to many of the distressing symptoms, already mentioned, such as flatulency, constipation, indigestion &c: and hence, the deficiency of that healthy complexion of the skin; which a free and vigorous circulation of the blood, through the cutaneous vessels, ought to produce: Pains in the muscles of the back which is frequently a symptom of debility; and is always an accompanement of Chlorosis. I think we may assert, with some degree of certainty: that these, may all be attributed to that great degree of sympathy existing between the organs enumerated, with that of the Uterus; giving rise to much irritation followed by a super excitation of each viscus implicated: Hence, causing them to be defective in the performance of their functions.

But many of the symptoms, together with the mode of treatment in Chlorosis: as it appears in the vigorous, florid, full bosomed country

country female, whose muscular power is great, whose pulse is full and tense, whose habit is gross, whose general ballance of functions greatly disturbed, irregularity of the mental functions, with many other symptoms of inflamatory action, prove the opposite extreme—

The Chlorotic condition of the body, is so commonly connected with a partial or complete retention of the menstrual discharge or Amenorrhoea: that the latter is almost always considered as synonymous in term: And by the females it is viewed, as always, without variation, to arise from a retention of the Menses. This however is an erroneous opinion, undoubtedly, respecting the disease.

The disease of the Uterus, may be advanced as the cause of the non appearance of the Menses, with others symptoms that constitute Chlorosis, and not as arising from general debility of the whole systems

A torpid, and loaded state of the bowels, in young females, when cooperating with many of the above named ~~symptoms~~ causes, seldom fail to give rise to Chlorotic symptoms: occasionally the disease comes on gradually, while the Menses are regular: Hence we cannot but concur with those authors, who contend that Chlorosis is by no means uncommon among females who have no interruption of the Menstrual flux, though at the same time there must exist, a derangement of some kind or other, either as regards to quality or relates to quantity.

From the paragraph just cited, it would appear, that the observations of the celebrated Cullen, will not accord with those of the present day: for he says "Chlorosis hardly ever appears separate from a retention of the Menses: and attending to these symptoms the cause ~~may~~ of this retention may, I think be ~~attended~~ to perceived" by this sentence

sentence to convey the idea of its being a disease of great debility of the whole system.

Exposure to cold is a very frequent cause of the disease, particularly at the time of the flow by checking it. By which cause the constitutional plethora will be considerably aggravated: and plethoric excesses themselves will occur, where no cold has been received.

Diagnosis

Chlorosis is liable to be confounded with many of the concealed organic diseases. From these affections however, with a little attention, they may be recognised very readily by the following circumstances. The pallid countenance in other organic diseases, although resembling much that of Chlorosis, will be frequently attend with a flushing of the countenance. The countenance too, in Chlorosis, is altogether devoid of any expression which indicates pain; whereas in other visceral affections, the physiognomy gives expressions of much suffering and distress.

Chlorosis is more liable to be confound with chronic affections of the liver, than any other visceral disease of which we are acquainted but from this, it may be distinguish very easily, if we attend to the subsequent symptoms viz: The fæces take on a clay coloured appearance, the urine tinged with bile; & the icteric appearance of the conjunctiva, all accompany a diseased liver and at the same time there is an unusual degree of tenderness, and swelling in the right Hypochondrium, which generally attends this disease.

Pathology.

It is impossible for me, to enter on the discussion of the pathology of this Chlorosis, without some expression of the great reluctance, with which I engage in it. Being conscious, as I am at the present time, that I could not add much towards the development of its proximate cause; owing to the extreme obscurity under which it is placed: But there are other considerations, that will cause me to hesitate, in entering upon the present enquiry

inquiry: viz, the remarkable differences, observable in the opinions of medical authors concerning Chlorosis:- and the limited extent of my own experience in the disease.

From the various opinions, and hypothesis advanced, concerning the pathology of this disease; we shall in the first place cite, a few of the most remarkable, which at the present day, appear altogether hypothetical and at the same time erroneous.

It is believed by some the disease arises, or is produced by a chemical imperfection, or want of elaboration in the blood itself, so as not to keep pace with the expansion or irritability of the sexual organs; and consequently so as not to afford them a nutrition sufficiently rich, and ripe for secretion; Hence follows retained or suppressed menses: as expressed by the illustrious Cullen: for he says "If the disease is most commonly connected with a retention of the catamenia, and occurs almost solely at that period of life, when the organs destined

destined, for the work of generation, are in full play; or attained a mature condition; the general laxity, and debility of the system upon which all the ~~syx~~ symptoms, depend; have been attributed to some morbid condition of the ovaria. Thus a celebrated professor has remarked, that as a certain state of the ovaria in females, prepares and disposes them to the exercise of venery, about the very period, at which the menses begin to flow, it is to be presumed that the state of the ovaria, and that of the uterine vessels are in some measure connected together; and as generally symptoms of a change in the state of the former appear before those of the latter, it may be inferred, that the state of the ovaria has a great share in exciting the uterine vessels and producing the menstrual flux. But analogous to what happens in the male sex it may be presumed, that in the females, a certain state of the genitals is, necessary to give tone and tension to the whole system: and therefore

and therefore ~~that~~ if the stimulus arising from the genitals be wanting, the whole system may fall into a torpid and flaccid state, and from thence the chlorosis and retention of the menses may arise." Cullen's, first lines, 1001." To the great recommendation of ingenuity, this hypothesis, is entitled. but does not remove any of the difficulties under which it is placed. It does not appear clear, that the morbid condition of the ovaria, like that of the uterine vessels, or of the constitution at large, is not rather a consequence of the general debility, than a cause of it."

Let us see what the learned Dr Good ~~says~~ gives as the pathology of this disease. He says, "it is sufficient to characterize chlorosis as a dysthesis or cachexy, produced by the a diseased condition of the ~~genital~~ sexual functions operating upon the system at large, and hence most common to the age of puberty, in which this function is first called forth

forth, by the complete elaboration of organs, that have hitherto been inert and undeveloped.

Without any presumption, we view the foregoing paragraph as unsatisfactory, for it ~~wd~~ bring nothing to our view, unless veiled under some degree of obscurity.

In offering the proximate cause of Chlorosis, we as many others, preceeding us have done: will offer that which is merely hypothetical, as we have but few facts, upon which to place our fabric. In giving our opinion, we fear, we cannot reconcile it with the conflicting opinions of authors of acknowledged merit. Its pathology appears to be complicated and difficult: for in attempting to investigate its causes, we must take a view of the whole sexual functions: as having already stated, it occurs in both sexes: it is only by taking this enlarged view of the subject, that we can arrive at any adequate explination of its two causes.

Notwithstanding, in the foregoing pages, we stated that chlorosis occurred both in the male, and female; we now take the opportunity, of advancing our opinion, as to its pathology in the male: and view it as a distinct, pathological condition of the system: that it arises from a deranged state of the liver and spleen; thereby inducing a great variety of symptoms, resembling those accompanying chlorosis in the female; we feel no hesitation in asserting. The pathology, of chlorosis in the female, from some little observation; ~~arises from a~~ appears to be a congestion of the Uterus with an inflamation of its mucous membrane. Functional disturbance of this organ must exist, when ~~it~~ structural disease, in its substance is present But it may continue for some time without affecting the constitution much: for numerous instances present themselves, in which parts, whose functions are not immediately necessary to the continuance of life, undergo, a considerable degree of morbid action, without producing much disturbance of the constitution.

But as we are slightly acquainted with the laws of the human system; we know that the different secretions of the body are governed by the same laws, and are affected by the same causes: a derangement therefore of the Uterus, can not exist long, without being attended by a disturbance of the rest: Hence follows its various and distressing symptoms, after a long continuation, of the irritation caused by its morbid action—

Treatment.

It is fortunate, in this, as in many other diseases, concerning the pathology of which, authors have differed widely in sentiment: We have a more solid basis than that of mere hypotheses, on which to place we may accomplish its cure: Namely, experience.— Chlorosis, the disease in question, offers to us, two different species: Viz; "Chlorosis Entonica" and "Chlorosis Atonica." And these differences, require different modes of treatment: and not as many of our predecessors, viewing it

viewing it as a disease, always of the Atonic kind, and arising from general debility; have always and in all cases resorted to the use of tonics: But experience has shown us, that those expedients, and tonic medicines, given with a view of restoring the strength of the constitution, will not always succeed. For in the species just about to be cited, quite a different mode of treatment will be requisite for the success, and safety of the patient to ~~health~~ restoration to health.

In the treatment of Chlorosis, a variety of medicines have been administered; some with a view of strengthening and giving tone to the whole system: others with a view of stimulating the uterine vessels into action; thereby producing the menstrual flow, the suspension and retention of which, many think, give rise to Chlorosis: Hence medicines giving with the intention of acting specifically upon the uterus, ~~are~~ called Emmenagogues. have been given

But the latter medicines appear, to be useless, and afford us nothing, in curing the disease, and restoring the patient to her former good health: for let us only remember as having already stated, that amenorrhoea or retention of the menses is, not the cause of Chlorosis, but a symptom of the disease.

In the species before us, "Chlorosis Entonica" characterized, by a strong full pulse, pain in the head and loins, with a variety of the preceding symptoms, arising frequently from cold; by which the constitutional plethora is considerably increased, showing at the same time a redundency of living power: This if neglected and let run on, may and often does, by debilitating the constitution, terminate in the Atonic Chlorosis, as we shall presently see.

But, before such a change takes place, and particularly in the commencement, we are loudly called upon for general, and liberal depletion. Repeated bloodletting with cooling purgatives and those remedies

made use of, to reduce inflamatory action; and where we have pain in the lumbar region, as is frequently the case, we may make use of the warm bath with great advantage: after this the patient is to observe a regular & plain diet, regular exercise, and sober hours will no doubt accomplish a perfect cure in many cases.

But where Chlorosis is permitted to progress in its usual manner, it induces that species, which we have already enumerated under the a preceding page under the appellation of "Chlorosis Atonica." This however is the reverse of the preceding species: and that there is a deficiency of living power, there can be no doubt for after the constant, and long continued irritation, the system is worn out, (if I may so express myself) and becomes debilitated: Here therefore bloodletting, and purgatives would only add to an evil already begun: and it now becomes our

duty

duty to sustain and give vigour and tone to the general system; and remove all causes that may exist. In this, we must make use of a strengthening, and tonic plan of treatment; and it must be extended through all the departments of medicine, diet and exercise.

Here, the tonics generally spoken of, will be applicable in Chlorosis: for instance the preparations of Iron, with the aromatics. Various other medicines are employed in the disease, such as the various bitters, bark, gentian and other mild tonics, and stimulating medicines. We find frequently great acidity in the stomach, in these cases absorbents are the medicines, which will be found, to contribute greatly towards the cure of the patient. such as Chalk. Magnesia Carbonas &c. There is a variety of other treatment in this disease, which will do but little good, it would be ridiculous for me to mention it here.

But in obstinate cases of Chlorosis, where it will not yield to the remedies already mentioned, our principle reliance is on mercury. A gentle salivation — kept up for some weeks, aided by the application of blisters to the thighs, and kept discharging for some time, has been found, to be one of the most efficacious of remedies. By this mode of treatment the morbid action of the body will be completely broken up, and at the same time a proper degree of tone will be communicated to the part more immediately affected, by the local action of the blisters. This practice, where the usual remedies have failed ought to have a fair trial, but at the same time used, with discretion and judgement.

A Dissertation On Delirium Tremens.

Submitted to the examination of the Provost, Trustees & Medical Faculty of the University of Maryland for the degree of Doctor of Medicine

by

William H Smith of Baltimore Md.

March 1st 1833.

To

Doctors John Buckler and Thomas H. Wright of Baltimore
talents, medical aquirements and usefulness in
ty have deservedly acquired for them the esteem and
ence of their fellow citizens, this essay is humbly
ated with the best wishes of the

Author.

Delirium Tremens.

In order that the matter contained in the following pages should exert a small claim to respect, it may perhaps with propriety be premised, that it is the result of personal experience and observation derived from a residence of Eighteen months in the Medical Department of the Baltimore Alms House, in which Institution the number of Patients, the subjects of the disease about to be described, which are annually presented for treatment, is such as to afford extensive opportunities for observation of the disease in its most simple form, the various complications under which it may occur, with the equally varied application of curative agents. Among the numerous evils with which humanity is afflicted, none are more calculated to attract our attention or to excite our warmest sympathies, than those which have their seat in the intellectual faculties; mental sufferings will inspire the heart of the humane and benevolent with feelings of interest and compassion, and their re-

removal will be attempted with zeal and perseverance. The most sober individual may occasionally be drawn into a fit of ebriety almost unconsciously, but he who accustoms himself to the use of strong fermented liquors gradually becomes a drinker and if he checks not the propensity, insensibly slides into a drunkard. The path leading to intoxication is strewed with flowers more alluring than the spells of Medea or Circe; few persons pass through life without experiencing a fit of ebriety; and the sufferings in such cases are only temporary, but the nervous sensibility of the confirmed inebriate becomes blunted, and while this change is going on in the body, a corresponding alteration is taking place in the mind. Every one has experienced the very pleasing sensations, which a few glasses of wine diffuse over the mind and body, a sort of Elysium opens upon the soul, the world presents nothing but flattering visions of happiness and prosperity; love, friendship and liberality take possession of the breast, and if the scene could be prolonged, man would have but little reason to envy the situation of the Gods. If we examine the series of change from sobriety to stupor, and the physical phenomena which attend, we shall not be surprised at

the very serious consequences which must ensue from such perturbation of the various functions. The action of the heart is immediately excited, and the blood is violently propelled to the head; as is evinced by the florid swelling of the face and the great turgescience of the vessels. It is on the brain and the digestive organs of the drunkard, that the deleterious effects of intemperance chiefly fall; The liver and its secretions become deteriorated, and through sympathetic action the brain suffers, the urinary organs are embarrassed by calculous affections, and the thoracic viscera with indurations and schirrous; some of the very many pernicious consequences resulting from ebriety. Hydrothorax, and structural as well as functional diseases of the heart, are among the most prominent features in this class of maladies, as has been amply and ably shown by celebrated Writers upon this subject, among the most distinguished of whom may be ranked Morgagni and Corvisart. Intemperance has also a peculiar effect upon the skin in the way of eruptions; probably from a sympathy between the surface of the body and the liver; The rubicund nose of the drunkard may be accounted for in the same way. This feature

sobriety has been described both by Poets and Physicians; Shakespeare, that accurate observer of nature, has given a very striking, as well as humorous picture of a drunkard's nose on the face of "Bardolph, when he compares it to a lighted coal, which serves to conduct him from Tavern to tavern instead of a lamp; in fact we may add that all the diseases, to which the human body is exposed, are exasperated by intemperance. The malady brought on by this undue indulgence, and of which we now propose to treat, has been variously named; the denominations given to it have been "Mania a Potu, Mania a Temulentia, Febris Temulentia, Delirium Tremens, and by Doctor Armstrong it has been termed the brain fever of Drunkards. It is not the purpose of this essay to canvass the several opinions, which gave origin to the many various and vague terms employed, but selecting Delirium Tremens as the one at the same time the most appropriate and expressive, I shall describe the disease as it occurred under my own observation, and the general plan of treatment, which in my opinion has proved most efficacious. Much has been written upon this subject and much diversity of opinion has prevailed among Authors

as to the essential Pathology and treatment; while some have given it a place among nervous diseases, others have considered it to present an inflamatory aspect; each addressing their remedies to the particular system which they supposed to be implicated; all however I believe are unanimous in their opinion with regard to the operation of the proximate or predisposing cause, viz. that of an habitual use of stimulant substances, Alcohol in particular; the effects of opium in excess are partially the same, only of a more agravated nature. The exciting cause will then be found in their sudden suppression or withdrawal. Doctor Barkhausen, a German Writer, in his pamphlet on this topic has supposed some peculiar condition of the atmosphere as capable of its production, both from the frequency of its occurence and from analogy in relation to other diseases of his country, which are either induced or evidently modified by atmospheric influence. Whatever ground for such an opinion may have existed in the humid climate of the country in which the Doctor wrote, so far as my reading extends he stands alone in the enumeration of this agent as one

of the causes of Delirium Tremens. The Primative effect of stimuli is to excite the powers of life and to render the imagination more vivid, this excitement after a longer or shorter period of duration is allways followed by a state of evident depression; the system becomes debilitated, the sensibilities blunted, and the spirits dejected —. To escape from these uncomfortable sensations the unhappy individual has recourse to stimuli again and again, in order to maintain the excitement, and enable the debilitated stomach properly to discharge its functions in the animal economy — It is a law of the system, that as it becomes habituated to the effect of any stimulus; in order to continue that effect, originally produced by the excess of it, it is necessary to increase the quantity, lest the susceptibility to impression should become blunted. It is a fact well known to persons, who have seen much of this disease, that the susceptibility of Drunkards to it is exceedingly various, in some it occurs on the slightest derangement of their functions, whilst in others the most severe attacks of disease may take place without any Man-

Manifest evidences of a tendency to delirium.— Nor does it depend entirely on the degree of indulgence, or the period of time during which they have been used. Perhaps it may also with propriety be observed, that those individuals, who have become intemperate early in life, render themselves more subject to it, than those who have recently acquired the habit of drinking, or have not pursued it to a very great extent until they had approached the years of maturity. This then is a disease of indirect debility produced by the absence of accustomed stimulus, evidenced in the first instance by a peculiar languor of the whole frame with much mobility, to which succeeds anorexia and sometimes nausea; the head feels heavy and confused, occasionally dependent upon pain in the front.

The patient complains of thirst; frequently expressing a desire for cool drinks, or for his usual stimulant or some equivalent; large draughts of water are made to supply its place; the countenance assumes a peculiar expression; the pulse is variable; generally soft, quick and frequent, without strength or tension, although in a few instances it is hard and full. The disturbance of the nervous system is soon communicated

to the muscular apparatus, and a continued tremor of the hands, tongue and cervical muscles is first apparent. This condition of things, familiarly denominated the Horrors, may continue for twelve or twenty four hours; when, if it is not arrested by prompt and appropiate treatment, Delirium of a distinct and peculiar kind rapidly supervenes. The patient becomes loquacious, says he feels well, and is tormented with more or less continued succession of various alarming, disgusting and ludicrous apparitions. Fully impressed with the idea that designs are entertained against his life, he either attempts to escape by the door or windows, or fancying himself in the arms of his assassins, asserts his innocence and vociferates loudly, or in the most piteous and imploring strain calls for help; sometimes he expresses alarm at his own condition, evidencing it by frequent long drawn sighs, insists upon leaving his apartment, rises and expresses a wish to resume his wonted occupations, adding at the same time that they suffer irretrievably from his absence; and if prevailed upon to lie down will soon be up again, if not restrained. It will be observed that patients in this more quiet moments will be engaged in picking

at the bed cloathes, or catching at objects, which their bewilder=
=ed imgination causes them to see floating in the air. These
latter symptoms will rarely be found to be wanting in a gen=
=uine case of Delirium Tremens, at least my experience would
lead me to suppose so. As a general rule the images conjured
up by their distempered minds are of an unpleasant Character;
though I have met with instances where a happy degree of gaiety and
good humor prevailed. I have thus far attempted to describe
the most usual and prominent symtoms, which I have observed
in persons afflicted with simple, uncomplicated Delirium
Tremens; and the practitioner, who might be so fortunate as
to meet it always under such an aspect, would have good
reason to congratulate both himself and his patient, but unfor=
=tunately this is not always the case; and he who is much
conversant with this affection, is often called upon to treat
cases which are so complicated in their nature, that all the re=
=sources of his art are sometimes inadequate to conduct
them to a successfull termination. In addition to the
symtoms which I have hitherto enumerated, and many of
which may have become agravated, other Phenomena will

have developed themselves. There will be now an evident determination to the head, the countenance flushed, the eyes wild, prominent and staring, the heat of surface above the natural standard, and if the person be of a plethoric habit, we may find a pulse full, frequent and hard, or tense; here the use of the lancet to a limited extent is perfectly justifiable. The most usual terminations of Delirium Tremens, if left to itself, will probably be ~~either~~ that of exhaustion from exertion and inanition; and where the case has resulted in death, the extraordinary excitement has given rise not merely to congestion but to actual, or at least partial inflammation of the brain with its envelopes, to this succeeds effusion; for to these cases is applicable the almost proverbial expression - "Ubi irritatio ibi fluxus. Extending our remarks in the next place to the Pathology of Delirium Tremens, we will take a brief view of the various opinions entertained by some writers upon this point. It must be admitted that none has yet been advanced, which has received the general sanction of the profession. It is a source of regret that opportunities for Autopsic examinations have not been adequate to throw much light on this subject.

The morbid appearances presented in the Arachnoid, Pia mater or medullary matter of the brain, or its capillaries, in persons, who have died of this form of disease, are common, and long since described as peculiar to, and characteristic of, Cerebritis Arachnitis or Cerebral congestion; and yet the symptoms attendant on these affections and those of most cases of Delirium Tremens are decidedly different. I think then, since we have derived but little insight from dissections, it becomes us to look for the Pathology, if any really does exist, in deranged nervous function or irritation; which may or may not be accidentally complicated with other conditions of particular organs of the general system. With regard to the Prognosis, favorable or unfavorable, which we would draw in this malady, we may lay it down as a pretty general rule, that young individuals with constitutions firm and, not undermined by the ravages of previous disease, particularly if it be the first attack, will be able to weather the storm, suffering subsequently from little save temporary debility; but repeated incursions of this disease enfeeble the vital energies, render the case more complicated,

and less under the control of remedial agents. If a gradual diminution of the degree of temulence and an abatement of the clamorous vociferations, accompanied by a tendency to sleep, is manifest, then we may augur favorably of the issue, for when sleep supervenes, our main intention is accomplished. If any of the more important organs in the vital economy are concerned we have reason to apprehend danger; and those writers, who have mentioned the convulsive symptoms, invariably agree, that this in connection with subsultus tendinum, and dilatation of the pupil of the eye, are in any instance, so far as their observations extend, the unerring precursors of death. Our Prognosis will be aided too by attending to the degree of arterial excitement, to the kind of respiration, whether it be sterlorous or not, whether there is coma or a disposition to it, and whether the torpor is so great, that the patient is unconscious of the presence of persons or surrounding objects. In descanting upon the treatment of this disease (it being that part of the subject which in order next demands our attention) we would remark, that upon this point most of all has the greatest

discrepancy of sentiment existed. Able Practitioners have individually in turns proclaimed themselves the advocates of "the Antiphlogistic, the Emetic and the opiate practice. Frank and Speranza of Europe, who regarded and treated Delirium Tremens as an essential inflammation of the cerebral mass, were no doubt sometimes successfull, or they would scarcely have (~~regarded~~) promulgated a practice which left no living evidence of its efficacy. The Emetic Practice first resorted to by our Countryman Doctor Klapp, who supposed the disease to have been of gastric origin, was also certainly fortunate in a majority of cases, which were subjected by him to that mode of treatment; or at least such is the statement given by that very able Physician in his reports of cases in the Philadelphia Medical Journals; the arguments brought forward in support of this opinion are "that dissection almost uniformly discloses traces of inflammation in the stomach, and that in every instance nausea, vomiting, and a foul tongue occur, that the disease yields more speedily under the employment of Emetics, than under any other plan of treatment,

hitherto recommended; these conclusions we do not fear to say will not hold good even in a majority of cases, as far as we are capable of judging. An exclusive opiate Practice, the popular one of the present day, though not without its objections, has undoubtedly proved to be most generally worthy of confidence, and therefore of the three may be considered the best. From our hospital experience we must declare, that our decided approbation must be given to the "Opiate Practice, though not the" Exclusive opiate Practice of Doctor Coats. Believing then (as we before stated) this to be an affection of indirect debility with irritation, we have adopted in our hospital practice the use of Stimulo Sedative agents, which by the influence they exercise give tone and energy to the system, at the same time that they powerfully allay super-sensitiveness or over exalted action of the nervous functions. The agents which we think have most promptly and certainly brought about this effect, are Tinct: Opii in combination with Sulphuric Ether. The amount of these agents necessary to ensure success varies so much in different individuals, that no specific or fixed rule can be laid

down. In general we have derived great benefit from the administration of an admixture of these before mentioned substances in the proportion of two parts of the former with one of the latter; the dose varying from Twenty to Forty gtts according to the nature of the case and the existing exigences, every hour; always gradually diminishing the amount so soon as the first tendency to sleep became apparent; and it is not to be wholly discontinued until this has become completely established, or when symptoms of apoplexy, congestion, or other contra-indicating circumstances may have arisen. We have not unfrequently derived infinite advantage from the exhibition of warm drinks, highly soothing, to the patient; Wine whey in particular, if there were not too great evidences of cerebral excitement, this is given at the time the medicine is administered and possesses the too fold advantage of being a mild stimulant, at the same time that it affords a means of sustenance; often a great desideratum in the treatment; for I have known patients manifest so great apathy for food, that they would reject it often for several days, when

it was proffered to them, and if any traces of appetite did exist they appeared to have been wholly concealed. If the stomach is irritable and the use of warm drinks is found to affend it, the employment of the Spiritus Mindereri combined with Tinct of Cardamoms, or some equivalent Tonic and aromatic agent will answer an excellent end; 'tis to be given at intervals of Twenty or thirty minutes and in con=nection with the Tinct Opii and Æther Sulphuric, in tablespoon doses. The plan of exhibiting the opiate in fluid form, as has been recom^ended and practised by Doctor Wright for some time past, I am enabled to sanction with con=fidence; since its very beneficial effects are almost daily exhibited to me in this form of disease; the opiate is presented to the gastric surface in its most dissolved state, the amount of it and the period of administration are both calculated gradually to solicit instead of forc=ing sleep. The quantity being entirely under the control of the Physician, there is not that apprehension of its accumulation in the system in its undissolved condition, an objection strongly attached I think to the Gum or

pulverised opium, especially when employed in such Heroic doses as "six grains at intervals of an hour. In certain states of this disease Cold applications are powerfully adjuvant agents, applicable where there is much action in the head, the patient being very wild and where the heat of surface is great, most advantageously used by applying ice to the head in bladders or the use of the sponge frequently repeated; in this state of things also is the employment of cups or Leeches indicated; by pursuing these means the increased cerebral force is diminished, the excitement of the system equalized, thus preparing it in the most certain and efficient manner for the favorable administration of our Stimulo sedative agents. I have found Emetics and Purgatives answer a better purpose as Prophalactics than curative means. In very many instances, where I have received individuals labouring under the effects of a too free indulgence of Spiritous potations, evidencing the strongest marks of incipient Delirium Tremens, have I prevented its occurrence by the timely exhibition of an emetic or purgative; the latter if it cannot be given by the mouth may be used in the form of enema either

Epsom Salts with spirits Terebinthina or an infusion of Senna and manna with Salts. When Delirium particularly that characterised by great lemulence has occured we have found such purgatives as combined with them stimulant properties by far the most advantageous, since they do not in so great a degree tend to produce direct debility by their purgative action. But one of the most powerful adjuvants to our stimulo sedative practice is the use of the warm bath and I can fully and confidently testify to the very beneficial effects ascribed to it by Doctor Wright in this variety of affection, as detailed by him in an able essay written some years since. I have never in any instance which has come within the pale of my practice had reason to regret its exhibition but on the contrary have been daily a witness of its manifest Potent agency in allaying and powerfully overcoming the extraordinary degree of nervous irritability, the attendant of this species of mental hallucination. General depletion we have very seldom found indicated or requisite, since the local abstraction of blood by means of Cups or Leeches has answered the end required; the proper points of

application of these are the temples upon the Mastoid processes or upon the back of the neck; by their direct depletion they relieve the determination to the vessels of the brain, thereby quiet inordinate action and rendering that organ more susceptible to the impression of our Stimulo Sedative means. If gastric inflammation be suspected, let it also be relieved by local depletion, aided by mild demulcent drinks freely administered. No narcotic should be given during the continuance of this condition of things, being very careful never to resume their exhibition save when perfectly confident of its entire absence, attending at the same time to the temperature of the surface; when this is not too exalted our anodyne agents act with most effect.
When a dry tongue occurs, even without great cerebral tendency, opium would then be an improper agent and the administration of Calomel in small quantities, or Blue Mass is indicated, for the purpose of exciting secretion and removing inflammation - Free purgatives are very often advisable particularly in the first stage of Delirium Tremens, where the bowels have been long obstructed, but they should

be resorted to with much caution in inflammation of the stomach or intestines. With regard to the employment of blisters in this affection we have little to say from experience, as we have not often been under the necessity of using them; wherever our depletory means have not proved of much avail in subduing the cerebral excitement, and we have reason to apprehend effusion upon the membranes of the brain, we should resort to the use of blisters to produce counter irritation and thereby prevent if possible this perilous condition of things. It is necessary to add that in the management of these patients all light should be completely excluded from their apartments, since without resorting to this measure we shall with difficulty be enabled to quiet them. If coercive measures should be required to restrain them, we have found the employment of the bed jacket very effectual. I have reason however to deprecate the use of the straight waistcoat or chain to the feet as they serve only to irritate instead of quieting, and in every instance in which I have witnessed their application they tended to produce a result directly

opposite to that for which they were instituted. Having thus descanted at considerable length upon this subject, and perhaps with but little effect, we will draw our remarks to a close, believing that the old Greek maxim is in very many instances true and particularly applicable in this place; ΜΕΓΑ ΒΙΒΛΙΟΝ, ΜΕΓΑ ΚΑΚΟΝ.

Dall. 1

An
Inaugural Dissertation
on
Chemistry —
by
Abraham Harsele —
of
virginia

Absent

No.

Inaugural Thesis
on
Chemistry
which is submitted
to the
Provost - Trustees
and
Medical Faculty
of the
University of Maryland
for the degree of
Doctor in Medicine
By
Abraham Farrell.
February — 1833.

To
L. T. Dorsey M.D.
Professor of Chemistry
in the
University of Maryland
whose talents
Have raised him to rank & esteem,
and also to public confidence
This little paper
is very respectfully dedicated
By his obedient servant
Abraham Hamell

Baltimore February 1833

Thesis on Chemistry.

"We presume it is not the province of man to arrive at correct principles without the aid of education. In fact, destitute of this his mind is confused his intellects are impeded and his knowledge of things but vague and superficial. In this condition he has no innate principle sufficient to guide him in the path of knowledge, or to conduct the mind to a state of maturity. Indeed without the interposition of instruction, his conduct in every age has demonstrated a base state of nature, and the profound ignorance which invariably prevails in the untutored mind. But this native darkness or confusion is amply supplied by the lights of science. These lights when presented upon his view remove his ignorance, and establish a true state of things in his mind.

Chemistry is a science which when rightly appreciated upon the character

of mind, and contributes much to his stock of information and knowledge. And we flatter ourselves, that a subject so well calculated to instruct and to render the mind conversant with surrounding objects will always be pleasing and interesting in its details. Without a knowledge of this department of human learning, we betray our ignorance of the properties of all bodies whether simple or compound. True it is, that we may perceive, without the aid of Chemistry, some of their physical qualities, such as their figure, solidity, &c; but it belongs to chemistry to detect the different ingredients entering into their composition, and to give a distinction between the ultimate particles of matter.

The science under consideration is nearly allied to several other branches of literature, and to prevent all confusion, it is proper, we think, in this place to discriminate between them. We have

had referred to natural philosophy and natural history. These two branches of natural science, though intimately connected with chemistry, had nevertheless different allotments assigned them in the investigations of nature. Natural history gives a detailed description of the forms and characters of natural things. Natural philosophy differing from this in some degree contemplates the separate masses of matter - their mutual actions, and the phenomena of affecting each other at sensible distances. But chemistry still more minute in its inquiries, has for its province, the investigation of all bodies in reference to the particles or elements of which they are constituted. Hence an acquaintance with chemistry always results in an acquaintance with nature, and must be a source of enlivening research to every active and scientific mind.

This pleasing science, which has become such a fruitful source of our knowledge, was in its origin and during its state of infancy, connected with many extravagancies. These extravagances originated with a class of misguided philosophers, who to distinguish themselves from other chemists, assumed the appellation of alchemists. These deluded men, it seems, pursuede what they called "the Elixir of health, the universal solvent, and the philosopher's stone." By the first, they presumed that the lives of men might be preserved to any length of time, or their mortality even prevented. By the second, they supposed a liquid sufficiently strong or active to dissolve every other substance: And by the third, they imaginged that a perfect metal consisted of quicksilver and sulpher, and that a union of the two formed gold: that all other metals contained a quantity

quantity of drop, which prevented the particles of these two substances from entering into combination. If therefore, this drop could be separated from other metals, a chemical union would take place, and that gold would be the product. They believed also that nature herself pursuing this course of operation - that she always aimed at making perfect gold in her revolutions, but many accidents coming between, the metals were changed and she disappointed.

But these mistaken views, we find were of short duration. Very soon, from a simple and mysterious art, chemistry arose to a science of great interest and utility. It has been the aim of many and is still the design of chemists not to produce any original substance, (as seems to have been the ambition of Alchemists) but to learn and revive the chemistry of nature as an example of their imitation.

And we find that scientific men in analyzing her operations and the materials forming her different departments, have produced compositions and effected decompositions, not to be realized in any chemical process of nature. These however, we are not to regard as original productions, but new modifications of the same matter.

The utility of chemistry in the different arts, exerts a great influence in moderating the toils of human life, and in facilitating many of the active employments of men. Agriculture can alone be improved by calling in the assistance of the chemical philosopher; for it is chemistry which explains the phenomena of vegetation, with the growth, the maturity, and the death of plants. Chemistry is the science which guards the pastile against the destroying pestilence to which the elements give rise; and teaches the domestic how to make choice of his

his meats and drinks, so as to promote health, and preserve a good constitution. Chemistry likewise directs the whole process of the vintage; the brewer and the distiller are alike dependent upon its operations and guidance. In medicine and pharmacy, great benefits have been derived from the discoveries of chemical philosophers. To the physician this science is of the greatest value. He learns from it to compound his medicines, to disarm poisons of their force, to adjust remedies to diseases, and to adopt general means for securing health. In fact, it would be tedious to detail the use of chemistry in the different departments of mechanical and manufacturing enterprises. These are all, more or less, greatly facilitated by the science in question.

The general use of chemistry is designed especially to acquaint the human mind with the peculiar nature of bodies, their attractive and repulsive forces, whether they exist in particles of the same, or

of different kinds of matter. These facts present to our consideration the sphere of chemical investigation. It is far from being a science confined in its inquiries, as it comprehends in its objects every thing material in the economy of nature. This truth opens to the philosopher an extensive field indeed, for chemical research and examination. By the aid of this science, he is prepared to inspect with some degree of certainty, every substance which comes within the sphere of his observation, even in whatever condition that substance may exist. The solid matters composing the globe and inhabit-the aqueous fluids which penetrate its cavities, or float about its surface-the most subtle or gaseous matter circumfused around it-the agencies of heat, and light, with other imponderable substances expanded through space, and all subjects of chemical pursuit.

These objects disclose to the chemist the sphere of his action, and the tasks which

which nature has assigned him; and indeed, he might regard the subject as useless, but for considerations which connect themselves with it. For if every individual substance were formed of different materials, then it is true the study of chemistry would be endless; the various bodies in nature are composed of elementary principles, which are not so very numerous. Upon this subject the ancient philosophers indulged a great mistake; that is, in reference to the divisions of matter. They reduced the whole material system, to what they called the elements of earth, water, fire, and air. But the progress of chemistry since that period, has proved that neither of these can be regarded as elementary. Each one of them having in union several ingredients, must be received as compound instead of elementary substances. A simple element admits of no decomposition, or of being separated into principles still more

minute.

This will appear still plainer, by extending our inquiries into the nature of analysis. Decomposition, we might remark, differs materially from the process of mechanical division, whether we refer to the means of its accomplishment or the final result of the operation. It is undoubtedly true, that by mechanical, or fine cutting instruments, a body may be extensively divided — reduced into separate portions, almost infinite in number — yet this is not analysis, or decomposition. For if we submit such portions to chemical agents, however small they may be, we shall find in each, the different elements which enter into the composition of the whole mass, or body. Hence a body is said to be divided when it is separated into minute parts; and analyzed, when reduced to the ingredients of which it is composed. The former process is usually effected by edged instruments; the latter, by any agent sufficient to overcome the laws of

of aggregation, and that of chemical affinity; embracing the principle of the and the attractive and repulsive influence exerted between the dissimilar kinds of matter.

When a body is reduced, by means of division, the parts assume the appellation of integrant; but when by analysis they are called constituent parts of the body or substance. By these two distinctions we discriminate between the small results of simple division; and the chemical produced by decomposition. When we decompose a body by the agents employed in chemistry, we look for its constituent principles; but we are furnished with its integrant ingredients, when separated by any other means. The reason of this is obvious; because, the finest instrument prepared by human art, is not sufficient to reach the line of union between the ultimate particles of matter. This is the province of chemical agency alone, and is effecte

by interrupting the relations, which one substance has for another. From these considerations, we at once perceive, the well marked distinction existing between the constituent and integrant parts of matter; with the different modes by which they are produced.

The various bodies in nature are also regarded as being either simple or compound. A simple body or substance contains but one kind of matter, and admits not of decomposition, there being no other substance in union with it. A compound body is made up of two or more simple ones, in a state of chemical union, and may be separated into simple or elementary principles. These arrangements appear quite natural, and have been received, by men of science in every age. But the different bodies which have been regarded as simple elements in one age, have been discovered by an other to be compound

compound; and as the science of chemistry has been improved we have discovered the means of analyzing what was previously conceived to be simple. In the present state of chemical knowledge, there are many substances considered simple; but we presume, that as the science advances to perfection they will be found to be compound. A new set of simple bodies may be introduced, and these again be decomposed; till at last, when the science has reached the highest degree of perfection, the true elements will appear, of which all bodies are ultimately composed. Whenever this shall happen, the list of simple substances will probably be reduced to a much smaller number than at present. Till this, however does take place, we are entitled to consider them as simple substances. The present state of the science embraces, perhaps, between forty and fifty simple bodies

comprehending the imponderable fluids of heat, light, and electricity - the gaseous substances of oxygen, hydrogen, and nitrogen; with solids, carbon, sulphur, phosphorus, the metals. &c: This list of simple bodies contains the elements, of which every material substance is formed, in the extensive field of nature.

But it is a subject of great interest to us, that we have a knowledge of the union of these elements in producing compound bodies. Indeed, without this knowledge chemistry would be a confused science; as it depends upon this kind of information, even for its own existence. This being premised, we may refer to the inherent tendency, which we find, in the different substances in nature to approach, and enter into union or combination with each other. This tendency seems to arise from a law, which the author of nature has impressed upon every substance composing the universe at large; and has been called by philosophers the law of attraction. But they make a distinction in

in the term, as it is applied to matter in its various conditions. It is called the attraction of gravitation when considered in reference to large masses of matter — the attraction of cohesion or aggregation when applied to substances containing the same kind of matter, and the attraction of composition, when bodies composed of different materials are taken into question. It is in the last named mode of material ~~existence~~ existence that the science of chemistry is chiefly employed. If an armed ball is thrown in the air, we find, it soon returns & cleaves to the surface of the earth; this is effected by the law of gravitation. If we notice the particles of water as they descend from the clouds we find them collected into drops; this is produced by the law of cohesion. But if we examine the nitrate of potash, we shall find two materials, unlike each other in their appearance, and properties; yet in a state of intimate union or

combination; this is the result of chemical affinity, or attraction. Hence, we may take the elements of different kinds of matter, and by the agency of chemistry, bring them into union, so far, as to make a substance entirely different in its properties from either of the elements entering into its formation.

The law of attraction, we have already remarked, is impressed upon all kinds of matter by which the different particles incline to unite and to form a general mass; yet, this peculiar attraction, as it exists in a simple element, exists an unequal affinity for other principles of matter. In this respect it seems to make its own selection; combining more readily with one particle, many times than with an other. If the union of two principles be brought into apparent contact with an other, having a stronger affinity for one of these than exists betwn the two; that union will be overcome by the superior force of the third ingredient,

ingredient, and a new body, be all were produced. Should we regard, for example A, and B, as two substances, and in a state of chemical combination, then present C, which has a greater affinity for B than is maintained between A and B, it is plain, that B will quit A, and unite into union with C, and hence, the original substance A-B will be decomposed and an other one between B-C be formed. This is called by Chemists, single elective affinity.

But there is an other peculiarity in the law of chemical affinities, which in the investigation, should not be overlooked. We have reference to the action, which may be observed between four ingredients, when submitted to a chemical process. Chemists have learnt by experiment, that a compound which is constituted of two elements, resists a decomposition, by either a third or fourth when separately applied. But if the two last ingredients be combined and

placed in contact with the first compound, a speedy change or division of principles immediately takes place. If we add lime water to sulphate of soda in a state of solution no decomposition ensues, because the attraction which sulphuric acid has for soda is much greater than it is for lime. If to the same composition we apply the muriatic acid, its principles, still remain uninterrupted, for the reason, that the sulphuric acid acts with a stronger force towards the soda than the muriatic acid. But if the lime and muriatic acid, previously, combined, be mixed with the sulphate of soda, a double decomposition is produced. We shall find the lime quitting the muriatic acid, and uniting with the sulphuric, and the soda combining with the muriatic; effecting what in chemical language is called double elective affinity.

But no chemical affinity or composition can be effected, but through the intermedium of a liquid, which by consent of philosophers,

philosophers is denominated a solvent. Hence, when the particles of a body disappear in a portion of water; this fluid is called its solvent, while the body thus dissolved, is said to be soluble in water. The same terms are used, whether, the composition requires, for its solvent, an acid, alcohol, or water, the body being regarded as soluble, or insoluble according as it enters, or not, into combination with either of these liquids.

Chemical union is greatly promoted by modifications produced upon the solvent or substance to be dissolved. Hence a hot liquid, generally speaking, increases chemical affinity more readily than a cold one. A body when pulverized dissolves much sooner than when left in a solid condition. To this we may add that of mechanical agitation. Many other remarks might be made on the general principles of the science, but we forbear, and submit what we have said.

The faculty } Respectfully A. Hamell.

Dissertatio Inauguralis

De

Asthmate

Quam

Annuente Summo Numine

Viro Admodum Reverendo

Roger B. Taney Praefecto

Caeterisque Gubernatoribus

Academiae Terrae Mariae

Praesertim Excellentissimae Facultati

Medicae

Pro Gradu Medicinae Doctoris

Examini

Subjicit

Stapleton Coates

Virginiensis

Civitatum Americae Foederatarum

Civis

Anno Domini

MDCCCXXXIII.

Viro
Excellentissimo
Atque
Experientissimo
Nathanieli Potter M. D.
Professori
Medicinae Theoriae Et Experientiae
In
Academia Terrae Mariae,
Agnito
Ejus Animi Potentiae
Atque
Generositatis Infinitae
Inscribitur
Haec Dissertatio
Ab Auctore Obligato.

Asthma.

Asthma, (ab Ἀσθμαζω anhelo), respirationis organorum morbus est. Ab auctoribus Graecis et Romanis fuit bene descriptum. Distinctiones, Asthma Spasmodicum, Asthma Siccum, et Asthma ab irritatione abdominis viscerum, unitae sunt. Aliae varietates a scriptoribus delineatae sunt secundum causas numerosas, quae, ut symptomata, accurate observarentur; sed pathologiae distinctioni non necessariae. Ut symptomata solum omnes divisiones has graves aestimans, praeterea ea describere.

Symptomata.

Respirandi difficultate, intra thoracem dolore et strictura, et suffocationis impendentis sensu, asthma repraesentatur. Nocte, aut ante quietem, aut inter somnum oritur plerumque morbi impetus. Sed ejus violentia, hora nulla dici est semper immunis. Ingravescens, molesta, respiratio gradu suffocationis efficitur saepe, et cor violenter palpitat. Dyspepsia, in epigastrio pondus, inquietudo, maestitia, eructationes acidae, appetitus prostratio aut voracitas, cordis dolor, et ventris inflatio, in hac af-

fectione sunt symptomata communia. Pro acuta imminui et recenti, desideratum urgens est. Ubi multus fumus, aut pulvis in aere manere longum patiens non potest, saepe apparens in hoc statu suffocari. Expectoratio, interdum deficiens et iterum copiosior est difficilis et molesta. Frigidulae frequenter patientis extremitates; vultus tumidus et lividus aut pallidus; capitis et colli sunt turgidae venae. Abnormis, intermittens, acceleratus, aut plenus modice et comprimi facilis arteriarum pulsus aliquando; autem plurimum tardus et debilis. Positionem frequenter mutat patiens decumbens, levamen obtinere, quod commutatio brevi tempore saepe procurat; interdum in alio latere quiescere magis molliter, quam in alio potest; saepe dolore immunis dum abdomine incumbens. Aliquando gravior in alio latere dolor, quam in alio est, pulmonum inaequalem debilitatem indicans. Plerumque respirationi adjuvare patiens scapulas attollit, thoracis cavum conans dilatare. Quum nimis oneratus est stomachus aut inanis, perceptiones vehementiores quam hoc organum quum modice istentum. Interdum in latere dolor continuus est, qui, pa-

tiente in eo incumbente, maxime crescit, et ita excitetur. Difficile et molestum plerumque loqui. Subito incipiens quamvis impetus, tarde semper cessat. Anhelatoribus benigna est tempestas frigidula et pruinosa; perniciosi calor et humor; pluviae aut nivis vicissitudo nocua; etiam quaeli et temperatis commutatio subita. Noxius est calor vehemens saepe sextile occurrentibus impetibus gravissimis, praecipue cum aer humidus est valde.

Causae

In species varias asthma dividunt auctores, causarum excitantium modos secundum differentes. Causae excitantes sunt aeris conditiones speciales, inhalatae in pulmones variae materiae irritantes, stomachi et intestinorum irritatio, sanguineae aut serosae evacuationis suppressio, qualis menses suppressio et haemorrhoidis, aut ulceris desiccatio, rheumatismi aut arthritidis translatio, atque affectionum variarum cutis; plethora generalis cum causis, quae ad pulmones sanguinis determinationes graves producunt, aut circulationis momentum augmentant; quum in statu perspirationis copiosae corpus est, algor; praecipue suppressa pedum perspiratio. Paroxysmus

excitetur quoque, animi perturbatione praesertim irâ violente et terrore, occupatione sedentariâ, praecipuis odoribus, diaetae materiâ de insolentiâ habitûs aut idiosyncrasiâ, fumo, pulve, urbis aere incluso; et interdum muri aere immuni et recenti, secundum patientis conditionem praecipuam, atque turbâ conferta. In aestate paroxysmos habent alii; hyemis accessum alii pertimescunt. Sulphuris vapore, acidi carbonici inhalatione, severa exercitatione, sonora locutione excitetur paroxysmus; quoque stomachi et intestinorum conditione debilitata et turbata. Vomitio violens et purgatio, jejunium, liquorum ardentium, aut fermentatorum potatio largior, etiam theae, comestura immodica et cibus concoctu difficilis paroxysmos excitent.

Causae praedisponentes sint, cordis et aortae affectiones organicae, hypertrophia, valvularum cardiacarum obliteratio, majarum arteriarum aneurisma, pulmonum debilitas vasculorum sanguinalium, aut systematis pulmonalis, aut nervorum pneumogastricorum conditio peculiariter irritabilis. Huic morbo praedispositio haereditaria aut acquisita sit.

Pathologia.

Morbi impetuum usitate nominatorum asthmatica affecti-
nes. pars melior ab infirmitate organica intus thoracem
ainuta; praecipue cordis morbis organicis, arteriarum capacium
ceurismata, hepatizatione pulmonum et eorum debilitate congen-
t. Spasmodicum pure asthma occurrere sine injuriam obviam
tructurae videtur. Ut aeris admissio in pulmones contractione
amodica cellularum aerearum et bronchiorum tubulorum
aquopere impeditur, quod respirationem suffocatam efficit,
anifestum apparet. Laennec talis est opinio. Nervorum affec-
, in hoc morbo gravis est; enimvero animi commotione ardente,
cessu in venere, lucis et tenebrarum impulsu, arthritidis retro-
cione, odoribus certis, aeris vicissitudine, et virtute festucarum tra
e, impetus saepe producitur. Spasmum nullum esse in hoc mor
aiunt aliqui, quia evidentiam existentium in ramis minori
s bronchiorum et cellulis aereis pulmonum, musculosarum fi-
arum non habent. Ut in tubis bronchiorum majoribus, ex-
ent fibrae tales, asseruerunt Laennec, Nasse, Soemmering et
Morgagni; quod credentes, similitudinis de proportione, has exis-
ae ramorum in divisione ultima admittamus. Praeterea ut

Non materia sola contractionis facilitor suscipiens est
fibra musculosa, hoc facto validum habemus testimo-
nium; scilicet, mucosa est fere, contractionis capacia sunt
canalia quorum substantia. Facultate contractionis potiri fi-
as bronchiorum Nasse demonstravit. Ut quum per ner-
pneumogastricos trajectus impulsus Galvanicus, demonstra-
u est, in contractionem conjiciuntur bronchiorum fibrae
toti pulmones, etiam par vagum dividendo ut dyspnoea
reducitur. Videtur ut spasmodice contrahentur tubuli
ronchiorum et cellulae aereae, nervorum pneumogastri-
um irritatione peculiari, quod aeris ingressum in pul-
ones impedit. Stomachi functione turbata in hoc
orbo, irritationis et excitationis morbidae in conditione
ustat hoc organum et pulmones esse. Si spasmo immu
s est hic morbus, quare animi commotionibus et
liis causis per systema nervorum directe agentibus, sic
bito excitantur impetus, atque sic cito dissipantur fre-
uenter, lobeliae inflatae portionibus paucis et aliis anti-
asmodicis? Si paroxysmi a congestione sola pulmonum
vasculis sanguinalibus oriuntur inflamatione efficiente

quare relevantur sic frequenter et prompte antispas-
modicis, stimulantibus, narcoticis et tonicis, quorum
numerentur sequentia; scilicet, vinum, acetum, assafoetida,
asplocarpus foetida, opium, aether sulphuricus, cinchona
cerium et ferri praeparationes? Atque quomodo in
lachum sumendo cibum relevantur symptomata in
gestione cum inflamatione? Haud dubie thoracis mus-
corum est spasmus in hac affectione. In incipio sit in
bronchiis et cellulis aereis inflamatio ardens plerumque
cum irritatione peculiari nervorum pneumogastricorum
accedit; vere in hac conditione symptomata relevat ve-
ra secretio, irritationem aut inflamationem removens, quae
mui causa sit, ita pariter ac antispasmodicum agens, cor
ere liberans, ejus actionem facilitans, et ita pulsum
suscitans. Sine dubio, in gradu summo, bronchiorum et cellu-
rum aerearum in vasculis congestio maxime est post paroxy-
i patefactionem, quae sit spasmi consequentia. Ut nervorum
pneumogastricorum irritatione credamus muci secretio redundans
bronchiis et cellulis aereis determinatur. In conditione mor-
a haec secretio est plerumque in hac affectione, vere viscida
glutinosa, sic expectorationem difficilem et laboriosam efficiens.

Diagnosis.

A catarrho discernitur asthma, nuci pulmonalis statu, cujus redundantia in asthmate inferior est, quam in morbo priore, atque paroxysmis spasmodicis et longis intervallis occurrentibus. A impetu tardius, quam apoplexia, est asthma et cerebrum non sic subito afficit; sed intus thoraceo dolore graviore incomitatur. Asthmatis impetus frequentiores quam apoplexiae sunt.

Aquam habendo pulmonum in cellulis aereis, a hydrothorace differt asthma, non pleurae in utroque sacco, pariter ac in hydrothorace. In asthmate respiratio immunior est quam in hydrothorace, et tempestate magis facilitor efficitur patiens. Hydropi universo in asthmate esse propensio videtur.

A pleuritide discernitur asthma dolore graviore in lateribus et thorace toto, aut inter humeros, pulsu vehementiore, respiratione calida et febri generali, quae morbum priorem repraesentant. Conjunguntur hi morbi.

A peripneumonia notha distinguitur asthma, symptomatibus utilibus et innoxiis aperte, quae peripneumoniam notham

introducunt; magis subitaneus est asthma, atque post somnum pariter ac peripneumonia noxe occurrit.

Prognosis.

Fatalis non sæpe fit hujus morbi impetus; sed pulmonum congestionem perniciosam, ejus recursus frequens efficiat; etiam intus thoracem effusio et exanitio universa consequantur. Diarrhœa, ulcere, urinâ copiosa, dysuriâ aut crurum tumefactione aliquando desinat. Nimis debilis, si non esset patiens, diarrhœa moderata permanat; aliter periculosa est et medicamentis opiatis atque astringentibus leniter, coercetur. Cum asthmate conjuncta peripneumonia notha fatalis est plerumque; pleuritidis conjunctio non necessario mortifera. Quum ante existente infirmitate pulmonali aut cardiaca concomitatur hic morbus, infausta est prognosis; enim pleuræ aut pericardii in cavum hydropica effusio fatalis, consequentia sit. Quamo animi commotionis effectus est hic morbus, odoris peculiaris aut vaporis, minus obstinatus, quam ab irritatione gastrica aut habitus impulsu ortus impetus. Qui, hoc morbo semel afflicti, ejus impetibus per vitam subjecti sunt. Nihilominus ætatem provectam anhelatores frequenter agunt.

Medendi Methodus.

Asthmatis curatio plurimum est solum temporaria. Paroxysmos mitigare, remedia varia usa sunt, et varii fuerunt eorum effectus, temporibus diversis, eodem patiente. Alleviando antispasmodicis, tentato primo, obtinetur levamen; aliás horum medicamentorum experiatur tota classis priusquam relevantur symptomata; et forsitan eorum omnia deficiant. Congestionem pulmonalem diminuere, levaminis, inter paroxysmum, indicatio primaria est, spasmo bronchiorum tubularum et cellularum aerearum relaxato.

Venae sectio removere congestionem, quum plenus pulsus est, patiente juveni et vigente, versaretur; ita redigatur irritatio atque ad alios modos patiens paretur. Emetica interdum levamen procurant, quum a catarrho irritatio et muci viscidi copiosa secretio in bronchis oriuntur; et praecipue quum post refectionem plenam sibi occurrit paroxysmus. Vehementem vomitionem excitare neque necessarium neque idoneum est. Ad hoc propositum ipecacuanhâ, scillae aceto, et lobeliâ inflatâ utamur.

Antispasmodica et Narcotica inter paroxysmum temporarium levamen saepe praebent; sed eorum exhibitio frequens, effectus diminuit utiles. Aether sulphuricus, opii tinctura, symplocarpus foetida, camphora, moschus, castoreum, belladonna, et hyoscyamus, horum medicamentorum quae sunt optima, exhibentur.

Expectorantia utilia sunt, qualia scillae praeparationes variae.

Diuretica in hac affectione sunt remedia eximia, praesertim urinae secretione deficiente et perspiratione obstructa. Horum medicamentorum sequentia cum commodo utantur; scilicet, scillae, digitalis, potassae acetas, sodae carbonas, et cedri baccae quae in meo casu mirabiliter successerunt.

Tonica effectus optimos producunt in conditionibus protractis cum debilitate gravi et relaxatione universa. De his cinchona, quiniae sulphas, ferri praeparationes, potus amari, fossilia acida, et acidum prussicum praescribantur.

Galvanismus in asthmaticis affectionibus chronicis cum commodo usus est, qui in principio lenis atque moderatus est. Vesicatoria, fonticuli, et setaceae quum persistit longe hic morbus, in thorace adhiberentur, equidem patiente debilitate

et cutis excitatione deficiente; eorum unus longe continuatus est.
Promiscua remedia alia in paroxysmis relevandis qualia,
frictio, et tepidae aquae inhalatio vaporis, atque hyoscyami fo-
liorum in bulliente aqua infusorum, commendata sunt,
nunci secretione deficiente. Nicotianae, stramonii radicis et
foliorum, atque digitalis foliorum fumus successit, levamine
temporario in praebendo; etiam picis liquidae fumorum
inhalatio utilis fuit. Intestina moderate laxa servare ne-
fas est; ad hoc propositum catharticis lenibus utamur;
quidem sodae carbonas, et magnesia eximiae sunt.
Prohibere paroxysmi asthmatici recursum accurate observa-
entur diaeta, atque regimen universum. Cinchona, quin-
e sulphas, arsenicum, ferri carbonas, pilulae hydrargyri,
m aliis aperientibus mitibus, balneum tepidum, aut fri-
dulum, vere systematis conditionem secundum, in aere apro
exercitatio temperata, aeris, aut climatis, aut mutatio, grata
vini occupatio, diaeta lenis, nutritia, atque simplex, lana-
lae vestitus, atque usitatarum causarum excitantium evitatio
praecenire impetuum frequentiae, et violentiae optimae ra-
tiones sunt. Mel, et allium, ut diaetae pars, utantur.

Aqua acidula, lac, choava et vinum sunt potus eximii. Asthmatico respiratus aer frigidus et aridus esset; et evitarentur loci clausi atque fervidi; etiam conventus frequentes. Momenti maximi est pedes servare calidos atque siccos. Tempestate frigidâ, induerentur lanula et alius vestitus calefaciens. Per gradus esset quaeque mutatio in habitu. Pulvis, fumus, metallorum vapor atque aliae odores ingratae evitarentur. Quum in pulmonibus tuberculi formati sunt, ut phthisis pulmonalis, tractaretur. Si esset corpulentus patiens, versarentur exercitatio continuata et levis, atque diaeta parca et laxativa; sed si languidus et debilitatus, profecto adhibeantur aer purus, diaeta moderata, nutritia et concoctu facilis cum tonicis lenibus. Maris in aqua lavatio laudatur praecipue patiente valido et vigente. Si vitam sedentariam ducit patiens, suscipiat statim occupationem magis actuosam; ut sine exercitatione debita, medicamenta omnia parum valent. Equitatio asthmatico praecipue commoda est, igitur nunquam mitteretur talis exercitatio. Postremo in memoriâ retinet asthmaticus exercitationem esse rectorem valetudinis.

Finis.

Dissertatio
Medica Inauguralis
Inscripta Observationes
de
Obstetriciis.

Ad Gradum Doctoris Medicina.

In Universitate Maria Terra.

Consequendum conscripta, quesque
Universitatis.

Praeposito, Syndicis, et Facultati.

Medica Humillime Dedicata

a Georgio Mari Gunine

De Baltimore.

Anno Domini 1833.

Viro
Clarissimo, Eruditissimo, et Experientissimo
Nathani R. Smith
M. D.
Professori Chirurgiæ in Academia
Mariæ Terræ
S. P. D.

Praeclarissime Vir

Insignis benevolentia, qua te in amicitiam mecum conferre dignatus es, jam pridem me tibi devinxit, quare multis abhinc mensibus in animo mihi fuit, tibi hujus laboris mei fructum dedicare: qua dedicatione (ut ingenue fatear) uti possem debito me levare non praesumo, sed potius memorem in bene merentem te praestare studio, minorem me aestimans, quam ut omnia merita tua ullâ mercede explere possem. Spero

igitur te, licentiam, quam sincero animo sumo, sine offensione accep=turum; te que ita existimare volo, me tibi tot officiis obligatum semper fore —

Auctor

De

Qualitatibus, quibus ad obstetricandum
habilis vir censeri potest —

Quum sane et necessarium est magistro
vel artifici cuidam, ut qualitates, quæ ad
exercitationem hujusmodi artis studeret et
animum intenderet, nisi vero magno cum
damno et dedecore dici velit se operam perde-
disse — Ideireo prius quam nos ad informa-
tionem, quæ concetur necessarium esse iis qui
ad obeundum obstetricum manus inclinant
animum, accingamus, non abs re erit, con-
siderare quibus artibus opus est illis qui
officium obstetricii cum laude sua et salute
patientium sumere volunt —
Opus hoc festinanter et quasi uno ictu absolvi
posse nemo putet; impendio temporis ad
eruirendam primam cognitionem rerum

generalem obtinet, nec dum, max apti
sumus omnibus rebus ayta acquisitam sci=
entiam rite efficiendis vel exercendis; longo
intervallo a se invicem Theoria et praxis
distant, maximum illarum est discrimen,
et quidem in hac re magis, quam ut credere
possunt, qui nunquam manus admoverunt
id quod agnoscet et fatebitur quisquis ad ips=
am praxin se applicaverit.

Mihi vero persuasum est, nihil utilius vel magis
necessarium generi humano dari homine perito
in hac arte qui ope sua valetudini, et vitae
conservandae matris pariter ac infantis prodesse
possit; obstetrici prudenti rerum que suarum
valide, qui in primordio statim partui diffi=
cili novit medere, idque fideliter praestat,
et officium exegit et amor proximi urget, debita
vero merito praetia nulla redari potest, eusque
laeram nullus precio exequabit, quamvis aliter
imprudentes sentiant.

Theoria praxin, ut corpus animam præcedit, qui nescit quid agendum sit, nescit effectum dare, multo minus modum bene agendi sciet; qui ex praxi tantum sapere satagunt sine previa rerum cognitione, sæpissime fallunturr. Inter alias res maxime necesse est, ut vir peritus esset anatomiæ muliebrium partium quæ generatione subserviunt, viz uteri usque ligamentorum, vaginæ, pudendi muliebris, vesicæ et intestini recti eorumque situs, pelvis cum ossibus in ea, secundarum sorro et humorum in quo fœtus innabat et inclusus est. Præterea generalis, imo specialis cognitio, quomodo prægnans tangi debeat, quid sit iste tactus, cur necessarius et cuinam rei inserviat; quomodo secundinæ excludendæ sint: quo tempore omnes prave siti fœtus vesti aut pedibus extrahi ducant, quibus instrumentis utendum sit ut

probe obstetrix officio suo fungatur, quomodo se genere post partum erga matrem et infantem debeat —

De pelvi eiusque ossibus, in qui situs et uterus, et perquam infantes in partu transeunt —

Periisque forsan alienum videbitur obstetrices instrui cognitione pelvis eiusque ossibus, varia item eiusdem figura et forma; sed istos falli arbitror, qui cognitionem pelvis inutilem esse putant a me longe abeit cum illis sentire, totus contra asseram eandem non modo utilem, verum etiam summe necessariam esse, ita ut sine clara istius rei scientia in incertum porrecta manu, et quasi caecutientes agant, si parturientibus in pravo vel naturali partu sint auxilio unde non nisi multos errores committere possunt — Hanc scientiam quanquam utilem in silentio praetereo, quia quam multi auctores ante me satis tractaverunt; sed monitum hic lectorem velim, summa ope niti decet animum

ejus pulcherrima scientia anatomica } ejus
imbutam si ejus officio fideliter fungi vellet, nam
ista ossa non in singulis hominibus, neque in sin-
gulis mulieribus axius ejusdemque forma ipse ex-
perientia docet, nec semper in maximi sonnis
mulieribus amplissimam pelvim, et contraverim
quidem invenire licet, quibusdam latis est ro-
tundis, illisdam latis, nonnullis ani lin-
ea planiore aut rotundior alis, alis magis nata
data est.

Maxima apertio et amplificatio pelvis, quâ ha-
beat fœtus iter, non a separatione ossium pubis,
sed secundum Dominum Blundel, a retrocessu
ossis sacri, vel in toto, vel quod acumen ejus sive
os coccygis, expectenda est. Difficillimum reddit
partum non tam angustia superioris ea pelvis,
quam exiguum spatium inter ossa ischia et
os coccygis, imo nullum forum progredienti
fœtui maximo impedimento est; sed plerum-
que situs infantis inversus vel pathicus uterin

quin et utriusque simul, exitum intercudit, et prinde fanum intexit, ossa pubis de=
vellantur necne — Ut vero clarius et dis=
tinctius rem proponamus, pauca de utero ipso
dicenda sunt vel per se, vel conjunctim cum
vagina ante et post impregnationem faminis
non gravidis et virginibus uterus est crassa
admodum et solida substantia, compositus
ex innumerabili multitudine fibrarum et
vasculorum, venis scilicet arteriis, nervulis,
vasculisque lymphaticis, interpositis par=
ticulis musculosis, quæ omnia scilè admodum
contexta, commixta et coadunata hoc mira=
bile corpus constituunt — Uterus per se con=
siderátus figurâ externâ cuidam hypoarum
generi haud absimilis est, infra tamen et
supra vesicæ et intestino recto adjacens,
magis complanatus, ibique levis et æqualis
est, sed ab utroque latere minus æqualis —
Utero eo modo et loco, quo sapientissimo

Conditori placuit, constituto, necesse etiam erat, ad eundem membro virili patere aditum: itidem utero impregnato, fœtuque jam perfecto, opus erit transitu per quem in lucem prodire queat. Transitus iste a pudendo exteriore ad uterum, plerumque vagina dicitur; quod nomen mihi non satis clarum ad denotandum transitum istum sive viam uteri ad pudendum, et vicissim videtur; tamen hoc nomini colli profero. Hæc vagina et rugosa, plurimisque consita plicis: facillime in latitudinem et longitudinem extenditur, idque necessarium erat, ut tempore partus fœtui concedat, deinde vero rursus contrahi queat — Uterus et vagina sibi invicem coadnata sunt uterusque, in qua parte acute terminat, proceos tunc in vaginam intrusus est, ita ut in fœminis non impregnatis, imo et priioribus graviditatis mensibus tactu percipiatur; at in parte os pariter cum utero laxatum adeo et extensum est

ut vagina cum utero videatur unum quasi
ventrem constituere —

Non sufficit formam uteri vaginæ dare modo,
sed usus est, ut intelligatur, quo modo et quo loco
ita sint, et etiam quibus partibus ligamentis
alligentur, quo particientibus impetuoside et tale
tum feramus sine lasionis vel mora periculo —
Uterus cum vagina infrà cohæret intestino recto
supra vesicæ, vagina ab ostio usque ad uterum
tota longitudine infrà cohæret recto, supra
vesicæ; Ipse vero uterus non nisi in priore parte,
prope scilicet os tincæ fat vulgò appellatur set
tanto superius vesicæ, alligatur recto, nec nisi
vi potest avelli. Hic situs etiam ipsi utero
extentionis occationem præbet at indies crescente
fœtu, pro necessitate sui dilatari queat; quod
tam commode non posset fieri si uterus
in infimo pelvis loco situs foret; plerique
enim pelvium cavitates minores sunt quam
ut fœtum ad summum usque incrementum

capere possint, imo etiam multis feminis impossibile esset partum in lucem edere, quapropter remedium huic malo adeundo Dei Sapientia invenit, ponendo uterum in loco maxime commodato —

Uterus pregnantium a utero non pregnantium maxime differt; quantum enim fœtus cum secundina et humoribus in quibus innatat, crescit et augitur, tantum et uterus necessario subinde extenditur — Uterus plurimum parte qui superior extenditur, fundo scilicet qui pleuradus vocatur, hinc deinde in eundem alius ascendit et in cubitale centris locari —

Pauca de crassitudine uteri — De ea non magnum certamen est inter auctores, omnes enim fulciunt, et dum illorum, sic et oralicorum heri illorum; alii contra, quo magis extenditur, e magis extenuari uterum censent — Dominus Hamiceau dicit uterum pro re nata extendi

et dilatari, manente tamen eadem crassitudine, qua caudex tam adhuc parvus factus esse videretur, et non obstante magnitudine sua, quam habet tempore partus, intra paucos dies retrahe ad pristinam parvitatem ac firmitatem contrahi possit.

Uterus aliquando obliquus et prave situs in feminis maxime gracilibus et exigua, cuilibet uterus parti accumbitur non dici innitit potest quin huc vel illuc inclinet. Ut vero operam perdamus causis prave illius positionis investigandis, perfecta hic dixisse; multiplices ipse causas huic malo, quas singulas persequari hic pigeret, inter alias precipue pravitas spinarum dorsi. Ex hoc facillime colligi potest, si fundus uteri prorsum vel retrorsum, dextrorsum vel sinistrorsum deflectit, pariter inde plus seu minus difficilem reddens, quo magis vel minus pravus iste a naturali situ differt.

De pauca de Secundina

Secundina sive placenta ex crassa quadam carnosa constat, cum annexa tenui quadam membrana; atque hæc cum carnosa sua massa conglutinata et connexa, fundo uteri adhæret. Quamvis crassior secundinæ pars placenta nomen carnosæ accepit — carnem tamen proprie talem non intelligo, qualis est caro musculorum; sed hoc carnosam illam placentam indigitatam aliquid volo carni simillimum, admodum lene ac molle, cujus vasa maxime fragilia sunt; proclivia que ad effusionem quos continent, humorum.

Nunc ad lactum prægnantium veniamus, explicandum est hic quid sit lactis et quomodo fiat. Tangere gravidam, vel se quia putat gravidam, nil aliud est, quam duos tertiores digitos dextræ manus oleo inunctos per pagina uteri inferre, isque explorare quid sit in eo, et hoc modo innotescat quod non nisi

hac ratione certa scire potest. Postquam cognitum est, an gravida sit mulier, necne? an tempus parendi instet, aut longa mora adhuc intercedat; an gravida variis doloribus conflentur; an facilis aut difficilis partus futurus sit & tum sit agendum secundum has cognitiones. Primis si partus naturalis vel facilis est (id est, si mulier infantem in lucem edent sine arte aut alieno auxilio, quod fit quum mulier exempta infirmitatibus quæ partui impedire possent; cessent uterum bene locatum, item sanum, & dispositum ad partum excludendum; infans in transitu, prava aliqua dispositione vel pelvis vel vagina non retardetur. infans non monstrosus sit, nec alii accidenti obnoxius, quod partum mori possit. Hi sunt quam multis aliis quæ partui favent ita existentibus nihil opus est alio auxilio quam mulieris si naturali. Partum naturalem ego actionibus hic circum-

scribo limitibus, quam alii auctores solent;
ad duas lineam se refere mensa. Non
igitur opera pretium est obstetricem docere,
si infantem excipiat, funem umbilicalem ab-
scindere, lavare et fovere corpusculum, vel cui-
dam feminae id faciendum committere.
Antequam hoc caput absolvamus ad partus
praeter naturales sui difficiles transitum hau-
bis se erit monstrare funiculus, quali positu-
re gaudeant infantes bene siti in utero, ut inde
melius pravas infantum positiones distinguere
discant; positio, qua plerumque gaudet infa-
cipita est:- dorso scilicet lumborum vertebris
adpositis, cruribus decussatis, manibus impositis
genibus, nasu ambobus pugnis interfuncto: hac
positione fetus plerumque sedent, quousque ver-
ti coperint, et tum nutantes capite prono
praecipites delabuntur versus os uteri. Contra
quidem infantes faciem cum ventre obvertunt
spinae matris. Sed hic notandum est, quod

fra posterum hanc litam, fraposteria
etiam ad exclusionem persona sequatur,
nisi infantis facies delabendo limal inver=
tur; si enim faciem infans non vertit, dum
vertex vel sinus delabitur, caput quidem
deorsum ad os uteri deferetur, facies autem,
eliâs prona jam erit sinistra, quod partum
valde difficilem reddit. Nonnunquam
etiam infantes omnino non invertuntur, sed
nates deorsum protendunt —

De partu praeter naturali seu difficili in gene=
re — Praecedente capite dictum est de partu
naturali vel facili; ubi obstetricibus nihil est
quod agant, natura ipsa operam suam absol=
vente sine ulla arte vel ope externa —
Jam inde de partu illo, in quo ars requiritur,
loquemur: qua ratione ars natura succurrat
ha sola efficiat, quod natura non valet
propter variis impedimentis —
Partus difficilis vel a matre, vel fetu, vel obstetrice

vigorem sumit, a matre, cum mala corporis conformatione, seu quodam partium vitio vel malo laboret — Femina diuturna febri, epilepsia, hydrope, stomachi intemperie aut alio malo tantam omnium virium jacturam facere possunt, ut fere parturientibus nihil earum supersit, quibus cum doloribus ad partum excludendum conniteantur, unde is retardatur et differtur, ac obstetricibus magis incumbit hisce opera matri adjumento esse, quam aliis quæ vigore naturæ valent conniti cum doloribus ad levandum et maturandum partum — Nonnullis etiam fœminis partum præcedunt morbi subiti, ut colica, lumbago, dolor nephriticus, convulsiones, vomitiones immodici fluores, diarrhœa et multa alia quæ plus vel minus partum pro morbi violentia retardant —

Quo igitur generales ista infirmitates aut morbi columbus semina tollantur, magnan-

lium cit quantum quidem possunt, curam dare, ut in tempore exhibitis medicamentis revalescant: id hoc vero prudentis medici, non mulierum munus est, quas istud suscipere minime decet. Idem volumus de morbis, quibus parturientes ante vel sub partum conflicuntur, ad peritum Chirurgum statim confugiendum, cujus consilio mulier tractanda est, ita ut hic loci pedes sic constitutis informatione nostra non opus sit. Id saltem volo ut obstetrix ejusmodi parturientem leniter ac fideliter adjuvet, benigne cautesque tractet, omnemque diligentiam adhibeat, et lubricum infanti iter praebeat, os uteri, si necessitas sit, relaxeat, blandis verbis mulierculam consoletur animumque reddat: obstantes famina magnopere caveant, neque frigoris offendat; diebus que corroborantibus, et remediis a medico praescriptis vires ejus reficiant. Quod si auxilia obstetricis adsint parturientibus

spasmo, convulsionibus, epilepsia, immodicis fluxibus, vel deliquiis animi obnoxii, quarum infantes praeversi prodeunt, tum tempus non terant caput in ostium dirigendo; sed contra ore uteri jam aperto si labor diuturnus expectandus sit, quocunque modo membranas rumpere, (si rupta non fuerint) fœtum pedibus extraherre tentent, modum sequenti tradimus. Consultum etiam haberem, si medici ad manus sunt, nam nunquam medicinam nisi conscia menti parturientibus exhibere decet. Ruri vero ubi aliter rem fieri non potest, chirurgus quibuscunque potest medicis modisque opitulari tenetur. Hic loci rursus obstetricibus observandum est quantis sua incuria incommodis femina afflgi possit. Medicus cui conscientia cura est, quid commodi aut incommodi afferant remedia a se prescripta cognoscat, si in praevia cognitione situs uteri et infantis nescit—

At quaeret forsan quispiam; si ista positio tanto deterior est quam prior, cur igitur ibi tradidisti, caput in pelvim inducendum esse, cum tamen id delapsum in eodem sinu angusto coarctetur, hac sola differentia, quod alter infans pronus, alter supinus jaceat? infantuli molles sunt et teneri quo unus penetravit, et alter quidem transibit, quod igitur tantam difficultatem praetendis? Respondeo: hanc posituram revera ceteris deteriorem, et inde causas esse, cur aliam agendi rationem quam antea tradam; femina jam diuturno urritoque labore defatigata, Chirurgus arcessitus est demum. ei ego auctor ero, ut abjecta omni cunctatione, infantem vertat, pedibusque extrahat; qui enim longas moras nectit, matrem et infantem extremo periculo ponit. Nunc restat. ut dicamus de partu difficili oriundo dolorum defectu, aut pravis aeterqi versantibus doloribus. Partus non semper

retardatur aut aegrescit ex prava uteri positione, seu ab infantibus prave persis; sed et alia symptomata enumerari possunt, de quibus hoc capite ultimo paucis agendum est= ad partum facilem felicemque dolores natu= rales, suo tempore modoque inuentes reducuntur: per has dolores intelligimus tales mo= tus uteri exorientes, quibus abdominis muscu= li adstricti tantam depressionem in fetumque in uterum faciant, quasi e corporis expellen= dus esset; atque horum dolorum impulsu uterus aperitur, fetusque in ostium ac inde per illud expellitur, a hoc facto femina feliciter partum edit. Si igitur motus isti aut omnino desint, aut minus sufficiant, inde labori mora infertur. Medicamenta ad concitandos dolores secundum optimos auctores, haud utenda sunt, opera manuum mihi solius videntur, si modo vires parturi= enti suppetant —

Multa sunt alia, quæ ex necessitate
in non hac sunt tractanda, quid
non tempus est nobis in hac Thesi
plenè et deliberatè investigandi.
Sed properandum est nobis ad finem.
Quanquam nihil de instrumentis, quibus
medici utuntur, nihil de infantibus, pedi
bus prævis prodeuntibus, seu tergo pro=
deunte, de Germanis præ versis, et multis
aliis diximus. Tamen Lectores (ut speramus)
aliquid utile inuenient in his chartulis
quanquam carpetim et festinanter scriptis—
Illis, qui perfectiorem scientiam cognoscere
valent ad auctores qui ex professo eam
tractaverunt, adeundum est, nobis autem
satis erit, si lectorem ad studendum et
inquirendum excitemus—
Hanc veniam, ab multa negligenter
lecta, multaque negligentius scripta
lenem lectorem precamur—

Ut metam manes altiori, hanc occasionem, Spectatissimi Medicinæ Professores, animi multorum beneficiorum haud immemoris ostendendi, lacte auspicio.
Si unquam de Medecina meruerim, vobis tribuendum erit; si non, semper tamen vestræ laudes manebunt.

Floreatis! et Floreat Hæc Alma Academia, qua olim prima scientiæ principia hausi! Valete!

Finis

An

Inaugural Dissertation

on

Scrofula

Submitted to the examination of the

Provost, Trustees, and Medical Faculty

of the

University of Maryland

For the

Degree of Doctor of Medicine

By

Wm. H. D. Hall of Maryland

March 1833.

To
The Medical Faculty
of
The University of Maryland
This imperfect essay
is respectfully inscribed
by the Author.

Pathologists have exercised their ingenuity in all ages relative to this disease. It has been a fruitful theme for controversy among medical writers as well with regard to its pathology as treatment: And were it not for a sincere desire to be a proficient in the disease, the author of this thesis, would not venture to write on so difficult a subject. I must beg the indulgence of my readers while I investigate the subject, and hope that its imperfections may not be too severely scrutinised by them In an essay from a student nothing new can be expected, as their information is generally from books and Professors.

The ravages of scrofula in our country are of so extensive a nature as to call forth the sympathies of all society, but especially from practitioners of medicine. Who can look on the young and beautiful infant, the object of its mothers greatest anxiety, and fathers hope, gifted with natures finest touches of beauty

and all the innocence which its pure Creator could bestow, sinking by slow decay, without a probability of relief, and not sensibly feel for its unhappy fate.

It visits all classes of society, the rich and the poor are alike subject to its withering influence. Whatever discrepancy there may be in the various opinions about other parts of the pathology of Scrofula, all at present seem to agree that it is hereditary; this, however has been questioned by some of the older writers. Scrofula generally manifests itself in childhood where the predisposition is very strong. It seldom appears during the first or second year and it has been known to occur at every period of life, from three years to the age of puberty. There are certain marks by which we may know (not indeed with certainty) but with a considerable share of probability in the most healthy condition of the body, those

who are predisposed to scrofula — Among these are a fair, smooth skin in which the blood vessels are very apparent — A peculiar delicacy and languor of the countenance, with a soft and rosy tint of the cheeks and lips. or a pale, soft flaccid and apparently tumid aspect of the countenance, with a leaden ~~colour~~ — around the mouth and swollen appearance of the upper lip, and lower part of the nostril. The eyes are usually large, and blue; in some rare cases, however, they are black; the head is usually large, particularly the occipital portion; the temples flat, and sometimes depressed; fullness and tugescency of the veins; long, and slender fingers; narrow chest and prominent shoulders. Persons predisposed to this disease are remarkably liable to slight catarrhal affections in which the nose and lips are apt to become swollen; the eyes take on a slow and languid inflammatory action, and where the predisposition

is very strong; the tarsi are constantly red and tender. Symptoms of indigestion are very frequently present. Sometimes the bowels are costive, and at others there is a troublesome mucous diarrhea; the appetite is variable, sometimes morbidly increased, and at others entirely wanting. The urine deposites a whitish sediment sometime after it is passed. There is a disposition to swelling in particular parts, as of the face and scrotum. In females the leucorrhoeal discharge occurs from time, to time. Children frequently have a scabby eruption on their heads, and excoriations behind their ears, and obstinate ophthalmia, with a fretful and irritable temper.

The scrofulous habit is characterised by great laxity of the muscular fiber. The growth of the body is slow, and there is a delicate organization throughout. The intellectual faculties are manifested remarkably early, and with a peculiar activity and liveliness.

The disease may exist in a dormant state for many years without becoming active, and at length pass off without terminating in any local affection. In by far the greatest number of cases, the strumous habit acquires strength, and when the patients are exposed to the exciting causes shews itself in its active form. A scrofulous diathesis can not however be decidedly proved by the concurrence of even all these appearances. There must be some morbid phenomena connected with them before we can with certainty pronounce its existence — Among these are swelling of the absorbent glands, particularly those about the neck. These swellings may continue languid for many years and at length pass off by absorption. But more frequently they continue increasing and at length terminate in suppuration and an open ulcer. These ulcers are chronic and indolent, and discharge

a thin, milky and viscid fluid. They have a peculiar purple circumference and heal very slowly. The cicatrices may be easily distinguished from those left by other ulcers. by their peculiar uneven, irregular and conspicuous appearance.

The eye lids and conjunctiva inflame and continue so for a long time, resisting allmost every remedy. The mucous membrane of the nose and bronchia frequently inflame and in the more advanced state of the disease, the thyroid and salivary, as well as some of the internal glandular parts enlarge. The bones enlarge; the cartilages of the large joints ulcerate and the bones of the nose are frequently discharged by ulceration.

The most common forms of scrofula are tuberculous phthisis pulmonalis, white swelling or disease of the hip joint and Kone: and opthalmia Nosologists usually designate this disease to be a morbid state of the

lymphatic glandular system, but if we judge from the symptoms we would say, he who confined it, to the lymphatic system would have a very contracted view, of it, for it seems to effect almost every tissue in the body. When the glandular system becomes diseased the secreting process is not only deranged but all the neighbouring tissues do not go on regular in their functions, and it is a rule in the animal economy that no system of vessels or important organ can be deranged for any length of time without involving those systems which cooperate with them. When the glands become weakened and diseased, they can not secrete the fluids which are necessary in the animal economy. The lymphatic fluids, remaining in the conglobate glands for a long time, the vascular parietes of these parts, become weakened and in this way, we may readily account for

the swelling which always takes place. The vessels which constitute their structure are weakened and almost cease to act. The fluids which are conveyed to them, continue to accumulate; the more fluid parts are conveyed through the glandular organ, and the grosser particles remain. The humours inspissate, indurate, and give rise to all those varieties of indolent swellings which are so characteristic of the disease.
Scrofula is not contagious as has been proved by inoculation, but the general observation of mankind has decided that it is hereditary. It does not follow that all children descended from scrofulous parents, must necessarily have a strumous habit; but they will be more likely to have the disease than those who have descended from healthy parents. In fact it is as much hereditary as any disease can be. Although scrofula is hereditary it is by no means, the only source of the disease, for the very idea

presupposes that it existed primarily in some one and the morbid phenomena must have been produced by some physical cause acting on the animal economy. The same cause which vivifies the disease in those who are predisposed to it, will in a higher degree, generate it. There is no person, however, strong and vigorous their constitutions may be, who, if exposed to repeated and long continued exciting causes, are exempt from scrofula. The causes which are acknowledged to be most frequently concerned in propagating a predisposition to scrofula are the following— The first and probably the most frequent cause, is climate and atmospheric vicissitudes. A warm climate has a considerable influence in producing a scrofulous diathesis in those who are born and raised in it, and afterwards, are exposed to a cold, damp, and variable atmosphere. Scrofula is comparatively a rare disease in the

East and west Indies, but when their inhabitants, come to the northern and temperate climate of Europe and America, they are particularly liable to suffer more, or less. Cold, damp, and variable atmosphere combined with unwholesome food, frequently concur in the production of a strumous diathesis. It is from this cause that it occurs so frequently in the vallies of Switzerland and in the low and marshy parts of England. In the impure and confined air of large cities, and in manufacturing establishments where large numbers of persons are crowded together during the day; the air becomes the thick and stagnant (if I may use the expression) from want of proper ventilation, and at night they are crowded in small and close hovels.— Deficient and unwholesome food, with the mental apprehensions which are its usual attendants, have a-

strong tendency to produce it. Coarse and indigestible food given to children when their stomachs are in a comparatively inactive state, and only able to bear the lightest ~~food~~ aliment, favour its production. Improper dietic management both as regards quantity as well as quality is a fruitful cause. How frequently do we see nurses giving children quantities of a thick, tenacious, and semifluid substance, called pap, which disagrees with them, makes them fretful and the ignorant nurse thinking it hungry, repeats dose, until nature makes an effort to throw off what the would be kind and ignorant nurse, has been lavishing on it. This is not all, artificial lactation has a very great tendency to weaken and derang the system and consequently, predispose to scrofula. Nature all wise in all her plans provides the mothers milk for the nourishment of infants; and when we depart

from this simple law of nature, and substitute other diet, in proportion to its dissimilarity, will be its bad tendency. The milk is one of the fluids of the glands of the body and is endowed with vitality. This is proved by the immediate influence of the moral affections on the intimate combination of its constituent principles. Milk is a vital fluid while in its secretory organ; and when it is received immediately from thence it is more easily managed by the stomachs of infants. and of course more nourishing. If we draw a comparison between the health of children, nourished by their mothers milk and those nourished by artificial means we shall be convinced of these facts. We shall see one fat and vigorous and the other weak and languid. And here I may remonstrate against the too common practice of mothers taking

their infants from the breast as early as is generally done. Another advantage of sucking the mothers milk is that the motion of the lips in sucking the breast, promotes the flow of the saliva into the mouth which combines with the milk and assists in digestion. When they are taken from milk diet, food is given to them, which is only fit for the stomachs of adults. These crude and indigestable substances, remaining for a long time undigested, on the stomach, an acid is generated and flatulency is produced. In this way the alimentary canal is constantly teased and irritated. Chronic inflamation of the intestanal canal and indigestion ensue.

This condition of the system seldom fails to produce a morbidly increased appetite. More food is daily received, than is digested; the whole system sympathises with

this affection of the stomach. Imperfect chylification goes on from day to day and the whole system of vessels is involved in the mischief. The little patient instead of increasing in strength and vigour, becomes weaker, and thus is laid the foundation of its death or future misery. Scabby eruptions break out on the head and face with a tense and tumid abdomen and other marks of gastro-enteritis and in this way do we see the disease generated. It is highly probable, that the gastro-intestinal irritation which always attends in a greater or less degree, when the digestive functions, continue long in a disordered condition, contributes as much and perhaps more to the production of Scrofulous symptoms, in such cases, than vitiated chyle which is produced by the stomach.

Weakness of parents, particularly weakness

of the genital organs is said to produce this predisposition in their children I should have mentioned when speaking of the age in which the disease, is most apt to manifest itself, that where the predisposition is from causes similar to that just mentioned, it occurs even early in the first year. Various writers, among whom I may mention Dr Eberly and Dr Charmichael are of opinion that scrofula in a large majority of cases is caused by a deranged state of the chylopoietic viscera. I have "adduced says Dr Charmichael "incontrovertable facts which demonstrate that the disorder of the chylopoietic viscera, precedes and accompanies the symptoms of scrofula & that there is the strongest grounds for believing that such a disorder is in a majority of cases the immediate cause of the disease.

A defective digestion continued for any length of time, must as certainly produce chyle or blood of vitiated quality and unfit to

replenish the waste of the body, as the constant use of unwholesome food. A disordered state of the system first ensues, and is followed by various local complaints. It is highly probable, however, that gastro-intestinal irritation, which always attends, in a greater or less degree when the digestive functions continue long in a disordered condition, contributes as much and perhaps more to the production of scrofulous symptoms in such cases, than vitiated chyle which is prepared by the stomach. Want of cleanliness will produce the disease. The debilitating effects of certain diseases are said to predispose to scrofula. Of these small pox, measles, scarlet fever, and hooping cough, among others are mentioned. It is not probable that these diseases have a specific effect, but that the debility they produce makes the system more apt to suffer from the debilitating effects

of errors in diet; and from cold. Syphilis is said by some, to be a cause; this, however, has not been satisfactorily proved. Certain it is that since syphilis has been more common scrofula is more plentiful. The abuse of opium is said to produce the scrofulous taint.

This is one of the most difficult diseases to cure of any that afflict the human race. The constitution must be entirely renovated, before we can eradicate the native predisposition, and this can not be accomplished in a very short time. When the predisposition is hereditary and has manifested itself in its active form, it is rare that it is cured; When, however, there is manifestly a congenital predisposition and it exists and continues in its latent or inactive form until the age of puberty or until the body has obtained its full strength and vigour, it not unfrequently disappears and never again makes its appearance.

But in by far the greatest number of cases the contrary obtains, for it is at this age that the strumous habit is apt to pass from the latent to the active state. Sometimes the external symptoms disappear for a time, and at some effective period it seizes on some vital part in its most malignant and fatal form. In some instances the disease developes itself gradually until the patient arrives at the age of manhood. or puberty and then remains stationary for life When the predisposing causes are such as can not be removed, there is a bad prospect of cure. Very frequently we meet with the disease, among the poor and squalid who have not, neither can they obtain proper nourishment. exposed to cold, damp, and variable and unwholesome air, with no prospect of bettering their situation. The prognosis in such cases must be unfavourable, especially

if it be in the active form. When it is hereditary it is more difficult to cure than when it is derived from external causes. The younger the patient the more probability there is of cure. When its first manifestation is at the age of puberty the chances (ceteris paribus) will be against the cure. So long as it remains in the latent or inactive form, there may be a reasonable probability of success from judicious medical treatment. Even when it shews itself in the usual forms of glandular swellings about the neck without the symptoms of tubercular phthisis pulmonalis, there may be a prospect of success. When the tumours are very numerous large and stationary (that is) can not be moved, under the skin, and very painful, it is ~~not this~~ almost impossible to cure it. Suppurated scrofulous tumors are not considered more dangerous, than inflamed glands. They are very troublesome When there is cough and

symptoms of tubercles in the lungs, we should rather encourage the external suppuration than suppress it. So long as the disease continues on the superficial glands, a prospect of success may be entertained. But when its ravages are on the internal and deep seated structures, such as the lungs, mesenteric glands, and the like, the cure is a bad one. We are, however, never to despair but persevere in our treatment. A desponding practitioner will never cure scrofula.

The first and certainly the most important indication in the cure of scrofula is in avoiding the exciting causes above enumerated. Without particular attention to this point all remedial treatment, (however judicious it may be) will avail nothing. The enjoyment of a pure and temperate atmosphere; avoiding the vicissitudes of the weather; wearing flannel next to the skin. So as to keep up a moderate irritation on the surface and keeping the

insensible perspiration constant and regular.
A nourishing and digestible diet, ~~avoiding~~ avoiding all excess. The diet should be such as will give tone and vigour to the system but should never be stimulating. All condiments should be avoided. The lean parts of tender and digestable meats may be allowed at dinner; of these beef, mutton and venison are proper. A generous diet is sometimes absolutely necessary. In those languid and debilitated cases which require support, a moderate allowance of wine may be given as a tonic. Old meats are more proper than young, as they contain more fibrous matter and less gelatine and are more digestable as well as more nourishing. Stimulating the system either with improper food or stimulating drinks is to be deprecated. For children light animal broths, liquid, mucilaginous and

farinaceous preperations with other simple diet. are proper. The enjoyment of a dry and temperate atmosphere should always be enjoined. The patient should remain in his room in damp weather and if he can undergo the expense, he should remain in a warm climate during the winter; and it is probable a warm climate would be their best residence. The air on the sea shore has been thought salutary: but these are advantages which can be enjoyed only by the rich; and a large portion of those who have the disease, are the poor of large cities, who can not undergo the expense. Nothing favours the production of scrofula more, than a damp, cold, northern and dark atmosphere. To prevent the active developement of the disease in those who are predisposed to it, regular exercise in

the open air in pleasant weather; continued long enough to dispose to rest, but never so much as to fatigue. When the patient is old enough riding on horse back and walking is the best exercise. As soon as children can walk they should be allowed to play on the open air unrestrained; exercise in a carriage is not so salutary as the voluntary and interesting play on the green sward where they are protected from the suns rays, by the wide spreading trees. Friictions have a delightful influence on the capillary vessels, excite the secretory organs and facilitate the resolution of glandular swellings by promoting the circulation of their fluids. Night air should be avoided; retiring seasonably and rising early is necessary. Bathing is highly recommended, sea bathing particularly. It appears not only to improve the general strength and vigour of the system but also promotes the dispersion of tumours

and the resolution of inflamed glands.
There are certain precautions necessary in cold bathing. The system should always have strength and vigour enough to resist the shock, given to it by the bath. If there be a glow over the body and the patient feel cheerful after bathing, with an increased appetite it will be of service. But if he should feel chilly, after coming out, and continue so, and is drowsy, we may conclude it will not be ser-
-viceable, and it must be discontinued.
Debilitated persons should remain in the bath but a short time. In some cases where the cold bath is not admissible, the warm bath may be used with great advantage. We may lower its temperature by degrees if we wish to do so until the bath is cold, lowering the temperature one or two degrees every time they bathe. Bathing relieves that dryness of the skin which often accompanies scrofulous weakness. Frictions with some

warm and stimulating substances greatly promotes the efficacy of bathing, and is frequently employed with advantage in certain cases of scabby eruptions. The warm salt bath is said, in some cases to be preferable to the sea bath. With regard to the medical treatment or rather the application of medicine to the disease, there is the greatest discrepancy of opinion, among writers. However discrepant they may be, all agree that the chief indications are to maintain, or restore the proper functions of the stomach and liver; to keep up the insensible perspiration; restore the intestinal canal to its proper functions; and support the energies of the system at large. Dr Gregory seems to be rather sceptical as it regards medical treatment in scrofula, and thinks that nothing can be done which will prove of permanent advantage, except the precautionary measures

above mentioned. How much soever, I may respect the opinion of this gentleman on all general subjects. I must beg leave to differ with him on this. We have authorities equally respectable, who have testified that much good has been done in this disease, by a judicious & well directed course of treatment.

In conformity to the pathology of scrofula which we have laid down in the preceding pages; we should restore the functions of the alimentary canal to its proper health, which is one of the first things to be attended to in the treatment of scrofula. A well regulated course of cathartic medicine has proved to be a decidedly useful auxilery, in its cure. For this purpose Calomel and the blue pill are highly spoken of as alterative cathartics. Sometimes we may join with them other cathartics, and at others, give alternately. There is a considerable difference of opinion

relative to the use of mercury in scrofula. Dr Farr, among others recommends mercurial frictions. However useful we think mercury is as a cathartic, we are of opinion that mercurial action will never eradicate scrofula from the system; and its salivant effects will prove mischievous by the great debility they produce, and also favour the formation of tubercles in the lungs. When the bowels are in a loaded condition, we may commence by giving small doses of calomel or blue pill - and in the course of six or eight hours, a dose of salts, oil, or rhubarb. The blue mass is very highly spoken of for the mildness of its operation. Mr. Lloyd gives five grains of blue mass at night and half a pint or a pint of compound decoction of sarsaparilla during the day. Mr Lloyd is of the opinion that calomel should not be used as a cathartic on account of its irritating effects, but the alterative operation of calomel will be of great advantage.

Dr Eberle recommends the alterative operation of mercury as well some others I could mention. Although there seems to be such a weight of authority in favour of its use in this way still there are others who do not approve the practice. Among others Dr Potter may be mentioned. He cautions his class particularly to be careful how they use mercury in Scrofula; especially where we have reason to suspect the formation of tubercles in the lungs. With regard to the harsh operation of calomel, so much feared by Mr Lloyd, we are not altogether satisfied. It is regarded by most writers as one of the mildest cathartics we have. We should be careful never to excite the bowels to inordinate action. Sometimes one medicine will operate mildly on one, and the contrary on another; when this is the case, we should remedy it by substituting another. With regard to the use of neutral salts, we should be careful not to use them often, especially where there are dyspeptic symptoms; as they are apt to increase gastric affections

of this description. By the purgative plan of treatment, we remove visceral obstructions, bring the liver to its proper action, and keep the bowels in a healthy and regular state. Tonics have been recommended by various writers. The sulphate of quinine is recommended where there are great debility and relaxation. Gentian, steel, and the mineral acids are also mentioned - but probably one of the best, is arsenic. This I have known to be employed with great advantage. The mode in which I have seen it used, is in the dose of 1/6 of a grain twice a day, in combination with the same quantity of opium, and a small quantity of soap. This is thought better than Fowler's solution (or the arseniate of potassa). The indiscriminate use of tonics is inadmissible. After the hepatic and alvine functions are in a proper action, and the perspiratory & urinary action is restored by proper medicines, the judicious use of a nourishing and digestible diet, regular exercise, warm clothing, the enjoyment of pure air will do more towards restoring tone of the system than any other course of treatment. Muriate of lime has been highly spoken of in this dis-

rare; but its reputation, like many other remedies in scrofula, has passed away. The muriate of baryta once held a rank of considerable respectability in this disease; but it has not answered the expectations which were at first anticipated. Antimony, from its antiphlogistic tendency, & its property of keeping up regular cutaneous exhalation, is a highly useful medicine in scrofula; especially when the glands are disposed to take on an inflammatory character. It is not supposed that it has any specific action in scrofula, but a general one in promoting secretion, and opposing inflammatory action. Iodine, has of late years, been spoken well of in affections of this kind - but the profession seems to be disappointed in its operation. It has been used with considerable advantage in certain enlarged glands of a strumous character, in the form of an unguent, made of the hydriodate of potassa, rubbed into and around the tumours. There are certain precautions necessary in its application. A preternatural sensibility or irritability of the system, a tendency to local determinations, a disposition to hemmorhagies, and an inflamed state of the tumours, decidedly contradict the employment of Iodine in its external, or internal form. Various are the remedies, which for a while have enjoyed considerable reputation, and at length passed into disuse; some no doubt justly, but others would have been useful, if ap-

plied with proper discretion. A remedy, which I have known to be used with great success in scrofula, is the burdock of our own country (Lappa). Dr Rush, the brightest star that ever has dawned upon the medical profession in America, said that if ever a remedy were found which would cure this disease, it would be a plant which blooms on the banks of some of our rivers. He looked forward to the day, when America's happy shore should have the honour of striking one disease more from the opprobria medicorum. However, grateful to our feelings this might be, I am afraid the day has not yet arrived when so formidable a disease can be entirely cured. The Arctium Lappa I have seen used in several instances with decided advantage, where almost every thing had failed which is in general use. These cases came under my own eye - some of them in my father's practice. The decoction of the root was used. It seems to have a peculiar effect on the perspiratory and urinary organs, and an exciting one on the glands: and by acting on the lymphatic system enables the enlarged glands to

absorb the superabundant depositions. Sarsaparilla has obtained great reputation in this as well, as many other similar affections - and may we not indulge a hope that this will far exceed it in this disease at least? Many other remedies of minor importance have been used which it is needless to detail in this place. And while the Botanist by his unwearied industry extends his inquiries & observations to the vast field which is laid before him in our country, he alike enjoys its beauty & fragrance, while he feeds his imagination with the hope of discovering something which may be useful to his fellow-men. The science of chemistry, now leaving its infancy, and developing itself in gigantic manhood, will ere long open its store-houses, and extend its delightful influence to the whole medical world in a more extensive manner than it hitherto has done. Thus far it has done much - and may we not reasonably hope, that the full meridian will soon burst upon us; and who knows where the science of medicine will stop its improvement?

An Inaugural Dissertation

on Iritis

Submitted to the

examination of

the Professors in the

university of Maryland

by Wm. G. Cook of Virginia.

4th March 1833.

In taking a survey of the works of nature, we are impressed on all hands with the mighty mind of their author, but in none of them, is this so conspicuous, so surpasing, and so imposing as in the human organism: but even here, our wonder is not equally excited by the organization of every part: the delicate structure, and perfect and beautiful adaptation of organization to function is nowhere more strikingly displayed than in the construction of the Eye — When we consider the great utility of this organ, and the vast fund of pleasure and information it brings to the individual, we would naturally conclude that it's pathology would have early engaged the attention of Surgeons; but this has not been the case; this department of Surgery, was left to the care of quacks and itinerant oculists, and of course nothing based upon scientific principles was found out in relation to it until, the attention of educated Surgeons was directed to the subject — The writers of the last century, knew little or nothing about the diseases of the eye: but within the last thirty years, Surgery has received a new impulse in all it's ramifications: Surgeons of the present day enlightened by researches in Pathological

Anatomy, and by more numerous observations, have distinguished with a precision which will doubtless become more exact, the different inflammations with which the deep parts of the eye are affected, and of none with more certainty, than the inflammation of the Iris, which it is our intention on the present occasion more particularly to consider – This disease was formerly described under the vague appelation of internal inflammation of the eye; but as the symptoms of these diseases were more minutely and accurately observed, it was obvious that they belonged to different parts of this organ, for it is now well known that parts differently organized, exhibit different symptoms in their pathological conditions, as has been long ago established in the most satisfactory manner, by Pinel, Borden, Portal, and especially by the labors of the great Bichat – Having premised these few preliminary remarks: we will now proceed to the more immediate subject of our observations –

The disease we are now about to consider, consists of an inflammation of the membrane hung before the lens, through which the rays of light pass, to impinge on the retina; called Iris – We do not propose to enter much in detail

upon this subject, but merely to lay before you some of the most prominent features of the disease, and the means of combating them — Iritis exists sometimes in an insulated manner; but more frequently, it is complicated with phlogosis of the cornea, or of the Choroid or even of the ciliary processes — In all these however it is easy to distinguish by the aid of the phenomena, which are proper to it, and which it is important well to observe — It rarely affects both eyes at the same time; but in other ophthalmiæ both eyes are frequently attacked at the same time — Pathologists have noticed several varieties of this disease, as the Idiopathic, one occurring in company with gout or Rheumatism, another with the constitutional signs of Lues Venerea, and another with Scrofula. We will first speak of the idiopathic species — The symptoms of this form, are an obtuse heavy pain situated deep in the eye producing the sensation of the ball being pressed upon by the finger. together with these symptoms, there is a contraction of the pupil, but it still retains it's circular shape, and maintains it's position in the eye, but now an intolerance of light supervenes — If the pupil is

there is a manifest increase of the constitutional disorder, less so when it extends externally, and still more so when the inflammation is propagated in both directions. In the second stage of the disease, the constitutional indisposition is more decided; the pain is very irregular, the redness of the conjunctiva increases, and the pupil becomes more or less angular. At these angles something of a light grayish color may be seen projecting behind the pupillary edge of the Iris which is a delicate layer of coagulable lymph, by which the urea adheres to the Lens if proper treatment be not promptly employed. While these changes are taking place in the posterior chamber, very important ones are going on in the anterior chamber. The Iris projects towards the cornea, this becomes more and more opaque, one or more abscesses form on the Iris, which bursting and discharging their contents into the anterior chamber, give rise to what is called hypopion. When several of these abscesses burst, the whole of the anterior chamber is filled, obscuring the Iris, and rendering vision impossible by excluding the rays of light. It sometimes happens at this particular crisis, that blood is effused into the anterior

chamber, particularly in weak and delicate subjects: this is regarded by professor Beer, as a very unfavorable symptom, as the same thing may have taken place in the posterior chamber, and become organized with the lymph, thus destroying vision — This is generally the progress of the disease in the second stage, when it has not extended to the deeper seated parts — If it spreads to the deeper seated parts, symptoms of violent inflammation occur, and vision is for ever destroyed — The traces of this disease cannot be mistaken by the experienced Surgeon — But if the disease has only extended to the anterior parts, the Iris approaches nearer and nearer the cornea, until in some instances they adhere intimately, either by means of their own surfaces, or by the medium of lymph — When adhesion takes place by their own surfaces directly, staphyloma is apt to be the result, but this is not so likely to occur when lymph is the band of union — but the cornea becomes on the other hand rather flat — The causes of this form of the disease, are such as act directly upon the Iris, and hence it is frequently the consequence of injuries from instruments while operating for cataract, or the result of accident — But it is useless to

enumerate all the causes that may produce the disease — If the disease is recognized and treated promptly, the prognosis is always favorable — The prognosis is most favorable when the disease is not extensive; but if it is extensive, we should always be very cautious in our prognosis — If the disease has been produced by direct violence of any kind inflicted upon the organ, we should be still more guarded in our prognosis — for we have not only to consider the inflammation, but also that the function of the organ may be destroyed by the injury — In the second stage of the disease, the prognosis is always less favorable than in the first stage — The chance of recovery depends upon the state of the coagulable lymph effused in the posterior chamber, and upon the state of suppuration — If there is no lymph effused, but only small shreds of lymph project from the pupillary margin of the Iris, if the color of the lesser circle is merely changed, without any little abscess being yet formed on its surface, and the vision is lessened in only a small degree, the disease may be completely cured — If on the other hand, there is an

effusion of lymph behind the Iris. if the color of the larger circle is altered, and there is great impairment of vision, the sight may yet be restored, but it will always be weak, and the pupil will always remain more or less angular - If together with these symptoms, there is hypopion, the Iris will never regain it's natural color - When the layer of lymph between the Iris and cornea is extensive, and bloodvessels can be seen passing into it, the skill of the practitioner will be of no avail, vision will certainly be destroyed, and he may consider himself fortunate, if he can succeed in preserving the form of the organ - If we are called upon to prescribe for this disease in it's early stage, our course is plain and simple - We should in the first place endeavor to find out the cause that produced it, and if possible remove it - If the pulse is full, hurried, and tense we must draw blood generally; and frequently it is necessary to bleed often and copiously - for many bad consequences are prevented by our treating the case with energy in the first instance - When we have bled generally, as long as it is proper for us to do so, we may resort to local bleeding with great propriety and advantage, and to fulfil this object we may

use either leeches or cups, but I am rather inclined to prefer the cups for this purpose, as they may act in two ways namely, by depleting locally, and by revulsion. Active cathartics should at the same time be freely employed, and we may use nauseating doses of antimony with great advantage — As soon as we have made an impression on the disease by means of the lancet, and other antiphlogistic measures, we should make use of the extract of Belladonna for the purpose of overcoming the tendency of the Iris to contract, and become adherent to the lens — Some Surgeons of eminence object to this practice because they think it will increase the inflammation, but if it is smeared on the eye-brow, and not applied directly to the eye itself, it will not produce the effect which has been so much apprehended — If these means do not immediately relieve the inflammation, mercury should be promptly employed; for if we temporize until coagulable phis thrown out, it may become so organized before the mercurial action can be established, as to resist all our remedial efforts — At all events when the effusion of lymph begins, we must use all possible means to arrest this process, and bring about the absorption of that already deposited — For this purpose we should

use mercury, so as to affect the constitution as speedily as possible: we may use either the ointment or calomel and opium, and a collyrium containing oxymuriate of mercury, mucilage and vinum opii – This is the collyrium of professor Beer, and if it lost it's effect, he introduced, daily between the eye-lids, a small quantity of salve composed of ℥ij of fresh butter ℈vi grs of Red precipitate and ℈viii grs of extract of opium – mercurial ointment rubbed over the eyebrow, and containing opium will greatly assist in promoting absorption of the effused lymph – but mercury is not only useful in promoting the absorption of the lymph after it has been deposited, but also in preventing it's effusion altogether – The credit of establishing the great value of mercury in this disease is due principally to mr Travers, who had ample opportunity of testing it's merit as a remedial agent in this affection, at the Eye Infirmary of London – But notwithstanding it has been established by a multitude of facts, that mercury is the best remedy in this disease, and in it's most acute stage too, still it's employment in this stage, is opposed by the

continental Surgeons, particularly the French – The discovery and propagation of the fact that mercury is of almost unfailing efficacy in every variety of Iritis ranks next to vaccination in the catalogue of modern discoveries – Mr Travers says it both produces and cures the disease, and ascribes it's different effects to the opposite state of the parts in health and disease – He thinks however that the subject is still involved in much obscurity – Dr Harne thinks mercury never produces the adhesive inflammation, of which he considers Iritis to be a specimen, but that it acts in a directly opposite manner, and therefore is the cure for the adhesive inflammation – I might here make many more remarks upon this article, but I have already digressed somewhat from my subject, for which I beg your indulgence – In addition to the means we have already mentioned, we should direct the patient to be placed in a dark room, and to live on a spare diet – Sometimes fomentations do good, at other times cold applications are the best – Blisters have been used after previous bleeding; if they are used they should be applied to the nape of the neck – These are the principal means that have

been employed in the treatment of this form of the disease ~ We may observe however that peculiar constitutions require a peculiar modification of treatment ~ For instance, I have seen the disease cured in a delicate young girl, without bleeding but by the gentle action of mercury in the form of Blue pill, the extract of Belladonna over the eye-brow and leeches to the temple. Those who have once had the disease, are liable to have it again from the slightest causes ~ In the variety connected with Rheumatism or Gout, we must treat upon general principles, attend to the constitution, regulate the action of the bowels, minister to symptoms, and treat as you would other varieties ~

Syphilitic Variety ~ Mr Hunter thought syphilis never affected the eye, but it is now believed by Schmid, Beer and many other distinguished surgeons that it does attack the eye, and no part of it more readily than the Iris ~ The following are some of the symptoms that characterize this variety of the disease ~ A pale redness all around the cornea is one of the first symptoms; this is at first in the sclerotica alone, but the conjunctiva soon participates in it and becomes redder than the sclerotica ~ There is a broad circle

of vessels around the cornea; the redness is of a peculiar tint, it is a brick-dust or brownish red and dull, instead of the scarlet hue. and the lymph that is poured out is more viscid and compact and brown in it's character, and adheres closely to the Iris – The vessels have a disposition to pass under the edge of the cornea, the whole of this last membrane becomes uniformly hazy. the pupil is contracted, the motions of the Iris less, and the pupil does not maintain it's central position in the eye, but is drawn upwards and inwards towards the nose, and is irregular – It is attended by a nocturnal paroxysm which is very severe – it generally comes on between six and seven in the afternoon, gradually increasing until it reaches it's height about midnight, then diminishing until about four or five in the morning, when it ceases altogether. After every such attack the pupil is found more and more contracted, drawn farther upwards, and the Iris being at the same time more altered in color and form, the quantity of lymph increased, and vision more interrupted – Certain appearances then take

place in the Iris, for on one or more points of its margins there shoots forth one or more reddish brown tubercles - Their growth is very rapid - Lardaceous ulcers also appear on the cornea, or white of the eye, or the integuments of the lids - Even when it terminates in the most favorable manner the eye for a long time afterwards is peculiarly sensible to the effects of cold and moisture - on every sudden exposure to the cold, the eye becomes morbidly sensible, is a little red, and the lachrymal secretion is augmented - This sensibility to cold and moisture sometimes exists for more than a year, but goes off when the eye has remained for a long time in a uniform temperature - The treatment is a little different from that of the foregoing varieties - Here general bleeding is not so necessary, yet frequently it is very proper - Local depletion and purgatives are always necessary - The nightly attacks of pain, which are so uniformly followed by an aggravation of all the symptoms, are best obviated, by rubbing well into the eyebrow, a small quantity of mercurial ointment and opium a short time before the expected paroxysm, and then cover the eye with a folded piece of warm linen

Should the pain threaten to come on any time during the night, the same application may be renewed - In conjunction with these means, mercury must be employed either in the form of ointment, or calomel pills combined with opium - This form of the disease will generally yield to these means. There is still another variety about which we must say a few words - I allude to the scrofulous Iritis - This occurs most commonly in young children, between the age of six and eighteen - It principally occurs in those of a weak and delicate constitution, and having the other marks of a scrofulous diathesis - The cornea becomes misty, with patches of red vessels on it's edges, great secretion of tears takes place, accompanied by great intolerance of light, which indeed is the predominant symptom of all scrofulous affections of the eyes - The eye-brow appears to project beyond the eye - The muscles, if one side only is affected become thicker, and stronger than those on the other side owing to the continual exertions they are making to exclude the light from the affected eye - This gives to the countenance a very hideous appearance - The

pulse is quick and irritable, the secretions unhealthy. the skin dry and harsh, and variable in temperature: the extremities are generally cold - This disease is obstinate in it's continuance - In delicate children, perhaps the best practice is to give a little calomel combined with prepared chalk, every night, and a little sulphate of quinine during the day, say a grain or two - this gives tone to the digestive organs, and through them to the system generally. A seton in the nape of the neck, or issue to the arms have been thought useful in the disease - We should be very cautious that the calomel does not do mischief, for frequently the patient is not able to bear its action on the system - The spirits of Turpentine has lately been used with advantage in this variety - The body should be kept warm by proper clothing, as flannel next to the skin; this will aid very much in keeping up the action of the skin - The patient should sleep in a high, dry room, his diet should be nourishing, but not stimulating, and every thing that can contribute in any degree to keep up the general health should be employed, as it is to the constitution we are

principally to look, in all such cases – These appear to me to be the principal means we should employ in the treatment of this disease – I have now, Gentlemen, given you an imperfect account of the different varieties of Iritis, and the made of treating them – I lay no claim to originality, I have seen but few cases of the disease, for it is comparatively rare, at least in private practice – I have endeavored however to lay before you, the opinions of modern Surgeons in relation to this disease, and its treatment, as far as I have been able to learn them from my limited means of researches and want of time – I believe however they are such as will apply in practice, and if they meet your approbation I am happy –

An Inaugural Dissertation on
Cholera Infantum.
Submitted to the examination
of the Professors in the University
of Maryland.

by

Alfred H. Barnett of Virginia
March 13th 1833

The Cholera of infants differs in several essential points from the ordinary cholera of adults. It is almost always distinctly febrile, and very frequently commences in a gradual manner with more or less diarrhoea of several days continuance, before the vomiting supervenes. It is liable to become protracted in its duration, or to assume a chronic form, circumstances which is scarcely ever noticed in the other varieties of the disease. The liver appears to be inactive as is evinced by the colour of the evacuations, which are wholly devoid of any appearance of bilious matter, consisting either of a white frothy, or of a watery and colourless fluid. If the disease does not rapidly exhaust the vital powers, and terminate fatally during the first few days, the patient begins to emaciate; the extremities become cold; the head and surface of the abdomen extremely warm; the skin dry and harsh; the countenance pale and shrunk; the eyes dull and sunk; and the

pulse small, irritated and frequent. If the disease is not overcome by proper remedial measures, the little patient by degrees becomes somnolent; he sleeps with his eyes half open, rolls about his head when awake, and at last sinks into a state of insensibility and coma, and dies under symptoms resembling those of hydrocephalus. When the disease is very protracted in its course, aphthæ usually appear on the tongue and inside of the cheeks; the face acquires an œdematous appearance; the alvine discharges become so acrid as to excoriate the rectum. The duration of this disease is exceedingly various. It may prove fatal in five or six hours, or continue for several weeks, and even months, until the body is reduced to a state of extreme emaciation, and yet terminate favorably. The majority of deaths take place before the termination of the ninth day. When death takes place rapidly in violent cases, the capils of the liver, and mucous membrane of the

alimentary canal are found, on dissection, strongly engorged with blood;" and where the disease had continued for any length of time before death, ulceration and erosion of the lining membrane of the stomach and bowels," are usually discovered. This disease is rarely more prevalent in large and crowded cities than in the country, it occurs almost exclusively there and in summer after birth, during the period of dentition. There are three causes whose combined influence is concerned in the production of this disease, namely, high atmospheric heat; the contamination of crowded cities; and the irritation produced by dentition. From the great prevalence of this disease during the hot months of summer in the more filthy parts of cities, it has been supposed that it is of miasmatic origin, but I apprehend the observations of most Physicians militate against this opinion. The disease is more prevalent in streets, that are wide, and exposed to the sun, than those which are filthy and

more abundant in the sources of malaria. Dr
Potter asserts that during the summer of 1816
which was uncommonly cool, not a single case of
Cholera Infantum occurred in the city of Baltimore
we know also that this disease makes its appearance,
before the period at which marsh miasmata is
generated, particularly in the months of June, and
July, before the ordinary paludal diseases, are
wont to make their appearance, Though there
are some exceptions, to these facts, still I think
we may fairly decide on Caloric as the remote
cause of Infantile Cholera. Heat, succeeded by
cold, accumulates the excitability, which only
requires some of the exciting causes, I have
enumerated, to develop the disease. Dr Eberle
thinks it highly probable, that excitism of the
brain, caused by the irritation of difficult
dentition or an irritable habit of body, is frequently
concerned in the production of this malady.
throughout the whole course of the disease, the

head is preternaturally warm — and in some instances the child is peculiarly restless and fretful some days previous to the accession of the disease. The tendency of cerebral irritation to cause inordinate irritability of the stomach and bowels is well known. Diarrhoea is very common and in general a salutary occurrence during the process of painful dentition. In concussion of the brain vomiting is often a very troublesome symptom: and sea-sickness which is often so violent as to resemble cholera, appears to depend on that peculiar cerebral excitement, occasioned by the rocking motion of a vessel at sea. The disposition which this disease has to terminate in a state of cerebral oppression and coma, in its chronic form, seems also to show that the brain is especially predisposed to inflammation, or to that peculiar morbid condition, which constitutes what is usually denominated acute hydrocephalus. We may therefore, presume that in the irritable condition of the system, produced by the influence of a very warm and contaminated atmosphere, dentition causes more or less cerebral irritation, which being reflected on the

stomach and intestines, renders them preternaturally irritable. If in this state of the Alimentary canal, the cutaneous exhalents are overexcited, and debilitated by high atmospheric temperature, the slightest reduction of temperature, a current of fresh air, or damp night-air, will readily cause a sudden torpor of these functions. The blood will retreat from the surface to the internal organs, and give rise to engorgement of the lines and mucous membrane of the bowels, by which the gastro-intestinal irritability will be still further increased, and the characteristic symptoms of the disease excited. Treatment — besides the indications for the treatment of ordinary cholera, one here in this variety, the important one of obviating irritation and sanguineous congestion of the brain, and hence opium which is our principal remedy in the former variety, cannot be employed in this form of the disease, without great hazard to the patient, some practitioners under the impression that the stomach contains offending matter, which the spontaneous vomiting is

unable to reject, commence the practice by the exhibition of an emetic, but this is exceedingly injurious if what has been stated relative to the pathology of the disease be correct, since it would have a tendency to increase the cerebral turgescence, and bring on a still greater prostration of the vital powers. It would appear from what I have stated above, that a torpor of the liver and cutaneous emunctories, in connection with cerebral irritation, constitutes the immediate cause of the excessive irritability of the stomach and intestines. Our principal object therefore must be to restore these two functions; to obviate cerebral congestion of the brain; and determine the blood from the engorged vessels of the liver and intestines. To effect these purposes, we should commence with the application of leeches to the temples, and the exhibition of minute doses of calomel and ipecac. We may also resort to external applications to the regions of the epigastrium and umbilicus, such as warm stimulating poultices, mustard plasters or an

Cloth wet say moistened with alcohol Tincture, these latter remedies determine to the surface and allay gastric irritability. When the pulse is irritated and the head very warm aching at the temples or behind the ears is particularly indicated, with a view of moderating the gastro-intestinal irritation, and stimulating the action of the liver, minute doses of calomel and ipecac constitute the most valuable remedy we possess. From one sixth to a quarter of a grain of calomel in union with half a grain of ipecacuanha should be given every hour or two, and continued until the evacuations become mixed with bilious matter. The appearance of bile in the stools whether green or dark, is always to be hailed as a favourable omen, and the sooner the liver can be brought to resume its secreting action, the greater will be the probability of ultimate success. Ipecacuanha in small doses is a most excellent auxiliary to the calomel, in affections attended with gastric irritability and excessive prostration of the alimentary canal. Its tendency to counteract

inordinate action of the bowels, and excite diaphoresis when given in small doses, a fact further enhances its applicability in this and other similar intestinal affections. Where there is reason to presume that the bowels are loaded with fecal matter, the quantity of calomel should be increased at each dose, so as to produce its purgative effects, under similar circumstances we may resort to some of the milder purgatives, such as castor oil. The warm bath is also a valuable remedy in the treatment of this disease; and more especially when the skin is very dry and harsh, and the pulse tense and quick. While the patient is immersed in warm water up to the neck, cold applications should be made to the head, Opium has been prescribed in this disease, but from the great tendency to cerebral congestion and inflammation, its use should be abandoned. The practice of resorting to astringent and absorbent remedies, is equally injurious, perhaps when the disease has become chronic, or continues rather in the form of chronic diarrhoea

an of cholera, the milder astringents may occasionally
ove beneficial, in this form of the disease a decoction
Rubus Villosus is an excellent remedy, but here from
the violence and rapidity of the disease, or its long con
uance the exhaustion becomes very great, the extremities
old, and the pulse very small and feeble, internal as
ell as external stimulants become necessary. Under such
umstances, stimulating frictions, together with the inter
al use of wine whey, milk-punch, or a weak solution
Carb Ammonia, are indispensable to the support of
sinking energies of the system. To relieve the
lic pains which are apt to occur from flat
lent distention of the bowels, in the advan
ced periods of chronic cholera infantum,
a few drops of the Oleum Lini Sinistinac,
or oil of Juniper have been recommended.
Particular attention should be paid to
the proper regulation of the childs diet,
throughout the whole course of the dis
ease. If the child is weaned, nothing

ut the blandest liquid articles of food must
e allowed. Boiled milk; liquid preparations
, arrow-root, tapioca, sago, rice; thin
atmeal gruel, barley decoction, or a so-
ution of gum-arabic, are the best articles
, food and drink in every stage of cho-
-ra infantum. In some instances of a
hronic character, deep tea or weak chick-
n broth has produced a favorable change
, the state of the stomach and bowels.
In the chronic form of this malady, the
ppetite sometimes suddenly begins to crave
urgently for certain strong and stimula-
ting articles of food, such as salted herring
or shad; old bacon; salted and smoked
beef, &c., whilst the stomach loathes all
of the lighter and uninvitating articles
of nourishment enumerated above.
When this occurs, it will be proper cau-
tiously to gratify the newly awakened

appetite, however opposed to the ordinary dietetic rules the indulgence may appear to be. "I have seen many children recover," says Dr Rush, "from being gratified in an inclination to eat salted fish, and the different kinds of salted meat. In some instances they evince an appetite for butter, and the richest varieties of roasted meat, and eat them with obvious relief to all their symptoms." Without these strong determinations of nature, however, it would be highly improper to allow such coarse articles of food; but when the inclination for them is strongly expressed, it may and ought to be gratified. Nothing contributes more to the removal of this disease than the enjoyment of the pure air of the country whenever it is practicable, therefore, the little patient ought to be immediately

removed into the country; for this change is often sufficient in recent cases to remove the disease in a very short time, without any other remedial application. If the circumstances do not admit of a removal from Rome to a suitable situation in the country, some advantage may be gained by carrying the patient about in the open air; and still more by frequent rides into the country in an open carriage. As preventive means, gestation, or residence in the pure air of the country; the avoidance of cool night air after a very warm day; nourishment at the least during the process of dentition, or where circumstances render this impracticable, a very light liquid diet — particularly milk, boiled or diluted with water. and a

thin preparation of arrow-root, with deep tea or weak chicken broth, to pick Cutting, flannel apparel, and lancing the gums as soon as they become sore. Cut up the protruding tooth are the most important

A Inaugural Dissertation

on

The Dysentery

for the

Degree of Dr. of Medicine

in the

University of Edinburgh

Humbly dedicated to the

Sacred Shades of Cullen, Gregory,

Black and Hope.

An Inaugural Dissertation on The Dysentery

for the Degree of Dr. of Medicine in the University of Maryland

Humbly dedicated to the Prevost Trustees and Faculty

March – 1833.

by Thomas W. Wells.

To Natt. Potter M.D.
Professor of the Practice in the
University of Maryland.
This treatise is humbly dedicated
as a marke of respect by

Thomas W. Wells.

Dysentery.

This is a disease of the intestines, an inflammation of the mucous membrane chiefly confined to the colon and rectum.

This view of the proximate of the disease is borne out by a consideration of its remote causes, of its symptoms, and of the efficacy of a treatment similar to that which is adopted in other inflammatory affections. Dissection also leads to the same conclusion; for ulceration and mortification are here commonly met with, as in the inflammations of other parts.

We presume that in this complaint the principal seat of disease is the inner membrane of the great intestines, for morbid appearances chiefly present themselves

in that part of the alimentary canal. The etiology of this disease has given rise to some diversity of opinion respecting its pathology.—That an inflammation of the mucous membrane of the intestines is to be referred to heat, as its remote cause, there can be no doubt, because it is to be found in situations where marsh effluvia does not exist, although it has too generally been ascribed to this cause. The same cause (heat) exerts a powerful influence on the liver, and hence, the state of the liver is thus far connected with this disease. There is nevertheless an inflammation of the mucous membrane of the intestines, more intimately connected with the condition of the liver, with a more distinct remmitting fever, evidently arising from marsh effluvia. In this case the remmittent is the epidemic,

and it occurs in autumn, after the usual season of the other variety. This is usually a more inflammatory fever and requires a more vigorous procedure to cure it. It is always accompanied by a congested state of the liver, and frequently by a suspended secretion of bile and an obstinate constipation of the intestines. Besides the comparative indication of blood-letting, it always requires the long continued use of the cathartic powers; especially heavy doses of calomel, which are indispensibly necessary to restore the hepatic secretions

Causes. A sudden check to perspiration is perhaps the most common of its exciting causes, the night dews are therefore to be avoided, putrid vegetables matter, unripe fruit, cold water taken in large quantities, all acid, and acescent substances,

will produce it.

Symptoms. The symptoms of dysentery vary according as it may be of the inflammatory, remittent, or typhoid type.

In the inflammatory form the symptoms are more intense; the pain in the abdomen is fixed and violent, with great heat in the integuments; the evacuations consist of blood and mucus; or of bloody serum; or pure blood with tenesmus, suppression of urine, and great desire for cold drinks; a white tongue, the pulse febrile and quick, or full and bounding, the stools at length become involuntary; and are intolerably fœtid, mixed with shreds of membrane, and the rectum often protruded. In the typhoid form, fainting, stupor, heaviness, ghastly expression, and calm delirium, watchfulness, and headach are the first symptoms; more decided marks of debe-

bility appear; the voice becomes weak, the tongue and teeth become brown or black; the stools are various, mucous, watery, dark &c. the pulse low thread like

In severe and protracted cases, dissection exhibits the inner membrane of the great intestines thickened, and formed into balls. In some cases, the colon has been found in a state of mortification, and faces have escaped into the cavity of the abdomen. With these, which are the true dysenteric appearances, marks of peritoneal inflammation are not unfrequently united

The treatment of this disease is to be regulated by a consideration, first, of the tendency to inflammation which exists in the mucous membrane, secondly, of that apparently spasmodic contraction of the muscular fibres in contact with the diseased membrane, by which the faces are retained, and lastly, of that morbid inca

increase of irritability in the whole extent of the intestinal canal.

If the pain be constant, and severe, and the pulse strong, or corded, blood should be taken from the arm. But the employment of purgatives constitutes the most important part of the treatment. They must be steadily persisted in, until fecal evacuations have been produced, and that accumulation of load in the bowels completely removed, which leads to the effort of straining. Then and not until then, may the practitioner desist from the free use of cathartics. Provided a due effect be produced, it does not appear to be of much consequence which of them is selected; but the liquid form is generally to preferred. A dose of calomel, followed by an ounce of sulphate of magnesia or oleum ricini, will commonly be found to answer well. Proper diaphoretics in small doses should be inter

posed between the purgatives, and thus the skin may be kept soft during the day; their effects may be assisted by an occasional use of the warm bath, the use of tartar emetic in small doses with a large quantity of water as 2 grains in a pint of water taking a wine-glass full every hour. In the course of the disease laudanum, or an ointment containing opium applied to the fundament after every stool, will greatly relieve the smarting produced by the irritating evacuations. With regard to the treatment of the typhous form, the most perfect ventilation, and cleanliness should be observed, venesection is improper and purges must be used with caution: If the patient be very faint, and the evacuations be copious and watery with marks of great debility, tonics may be used. The treatment should be commenced with an emetic; of tartar emetic or ipecacuanha,

assisting its operation by chamomile or eupatorium tea; the bowels are then to be opened, and the degree of purging is to regulated by the debility; at the same time guarding against weakness by giving opium combined with chalk. wine whey camphor. and astringents when the stools are copious are indispensable.

Convalescence must be managed by gentle purgatives, as the infusion of rhubarb combined with tonics. The symptoms, however, must be well watched, as otherwise tonic medicines will irritate the bowels and produce a relapse. The diet should be light, and digestible, barley or rice water arrow root, tapioca, and sago, adding a little ginger, or aromatic powder, to render the diet more palatable. The white of eggs, soup, fat, butter, and spirituous liquids should be avoided. Flannel should be worn next

the skin and the patient during convalescence, should take gentle exercise. In the course of the treatment, the danger of using narcotics, astringents, and spirituous medicines cannot be too seriously urged.

Finis.

An
Inaugural Dissertation
On
Malaria
Submitted to the Consideration
of the
Trustees and Medical Faculty
of the
University of Maryland
for the
Degree of Doctor of Medicine

By
Wm. Anders Dorsey
of
Baltimore Maryland

March 1838.

An Inaugural Dissertation on Mania

Submitted to the Consideration of the Provost and Medical Faculty of the University of Maryland for the Degree of Doctor of Medicine

By

H. Anson Dorsey.
of
Baltimore, Maryland

March 1833.

To the Medical Faculty of the University of Maryland, whose time and eminent talents have been, and still are devoted to the advancement of an object, than all others more noble — the alleviation of human suffering and the diffusion of health and happiness to a growing and populous community, and whose liberal contributions toward the accomplishment of this important end, must have drawn forth the gratitude, and excited the admiration of the World, this Dissertation is most humbly and respectfully inscribed as an indication of the profound respect and esteem entertained by one for their gentlemanly deportment and high attainments in Medical Science.

The Author

To the Medical Faculty of the University of Edinburgh, I have been and remained related from time, and shall ever be attached to the interest and object. From all effort, have made the alleviation of human suffering and the diffusion of health and happiness to a growing and populous community and have labored continuously towards the accomplishment of this important end. Now, drawing from the practice and experience the acknowledgment of the Medical Faculty is a moral humility and respectfully intimated as some measure of the professional labor and sacrifices sustained by me for their gratuitous appointment and high attainment in Medical science.

The Author

Mania - Madness.

The consideration of this disease naturally gives rise to some important and highly interesting questions with regard to the nature and faculties of that which constitutes its seat, the mind or soul - questions which have arrested and foiled the most profound human wisdom - The most brilliant and acute intellects have been employed in the solution of them - such as, that of a Socrates, Plato, and an Aristotle, and all alike have failed - Even the mighty and immortal Locke himself has not satisfactorily unravelled the forbidding intricacy of these questions, although he has certainly approached more nearly the accomplishment of this important end than any, or all others - How vain and presumptious, then, would it be for the author to attempt ~~on~~ the removal of these intellectual difficulties, after the failure of those bright luminaries to whom allusion has already been made. He must content himself with modestly acknowledging that he knows

nothing with certainty rather than his inability to furnish one ray of light upon them. These questions will, it is highly probable, remain eternally concealed from the operations of human intellect. The most important of these questions is the following – is the soul, mind, or spirit of man material or immaterial? This inquiry would appear to imply, upon a superficial view, nothing less than a belief or disbelief, not indeed in the divine origin; but in its divine similitude and immortality – Yet I may venture to assert in the language of the erudite Doct. Good, "that there is no question which has been productive of so little satisfaction or has laid a foundation for wider and wilder errors within the whole range of Metaphysicks, and for the simple and plain reason, in the opinion of the author, that we have no distinct conception of the language we use, and no established premises upon which to build. Materiality and immateriality are terms we do not comprehend – Of the essence of matter, we know nothing

and just as little of many of it's more active qualities - So little indeed ~~we~~ do we know, that it yet remains equivocal whether heat, light, electricity &c are material substances, or whether they are properties merely superadded to matter and of a higher nature. If they be material, many of the properties which are generally regarded as essential to matter are not so - such as gravity and ponderability; and if they be superadded to matter they must of necessity be immaterial, and we cannot open our eyes without beholding innumerable proofs of material and immaterial substances coexisting and acting in harmonious union throughout the vast frame of nature. But if we know nothing of the essence of matter and but little of it's properties, what can we know of that which is immaterial? of the meaning of a word, which in it's proper sense, comprehends every thing as well below as above the order of matter, and even the deity himself? Surely we know nothing.

Can find a little of many of the three certain particulars little indeed do we know, that it takes various degrees of intensity heat, light, electricity &c to obtain distinct or intuitive ideas of particular merely superadded to the matter we call higher matter, if they be necessary, many of the perceptions which are generally considered as attached to matter are not so. Merely our perceptibility; and if they be superadded to matter they must of necessity be immaterial, can we cannot form our own intellectual beholding immaterial proofs, matter and immaterial substance are contrasting words only from reasoning being through the mental frames of matter. What of the nature of matter and what little of matter, what is the nature of matter, which is in its proper sense, complicated always thing as such before we adore the author of matter, and even the deity himself? Thereby the same nothing.

Were the author to indulge in speculation with respect to this abstruse subject, he would be plunged, as thousands have been, into errour; but could not arrive at any thing like demonstration. He would probably be lead on the one hand to embrace the proud Bramin-ical and Platonic doctrine, that the spence of the soul is that of the Deity, and consequently a part of the deity himself, or on the other hand to the dark and gloomy regions of Modern Materialism and to the comfortless doctrine, that it dies and dissolves in one common grave with the body. The author will therefore not attempt speculation; but proceed to say something with regard to the subject which he proposes to treat of in this dissertation. It is however, highly probable at least, and I think absolutely certain, that the soul has a distinct nature from the body, that it is endowed with immortality, possessed of reasoning faculties, and capacified for a state of seperate existance after the death of the corporeal frame to which it is attached.

One thing is certain, whatever be the nature of the mind, that the brain is the organ in which it resides and by which it maintains intercourse with the surrounding world.

Mania is a disease of which there appears to be but little known by physicians; the cause of which is unequivocally our entire ignorance of the manner in which the operations of the mind and body are connected - We know it is true that when the mind suffers, the body also does, and vice versa; but beyond this, we know nothing - I shall in the first place take a cursory view of the various hypothyses which have been advanced by different physosishers at different times with respect to maniacal aberration.

Some have immagined that mania consists of some errour in the reasoning faculty - Mr. Loche characterises the disease as a disordered state of the association of ideas - Doct. Cullen on the other hand, thought at one time, that false judgments of the relations of things

constitute mania. Such a view of the subject, however, is in opposition to a principle generally received that madmen frequently reason correctly from false premises, and moreover, I think it furnishes no sufficient line of demarcation between the insane and those who are merely fatuitous or capricious. Dissatisfied with this definition, Dr. Cullen gave it as his opinion, at a subsequent period, that the diseased judgments gave rise to disproportionate emotions or passions - This addition appears to increase our just notions of the disease, but very inconsiderably - The emotions of a lunatic are indeed often vehement, and forcibly expressed; but they are probably in due proportion to the impressions from which they are produced.

Another class of writers in attempting to establish the nature of madness, exclude entirely all reference to the reasoning faculty as well as notion of primary derangement of the passions, and think

Mania consists in diseased perceptions - We are willing to acknowledge that false perceptions do occur in manical disease; but that they exist independently of any other affection of the mind, is exceedingly equivocal. Dr. Prichard and some others view the subject somewhat differently, asserting that the habit which is peculiar to the maniac is that of blending the results of the memory and immagination and mistaking the ideas of reverie for those of attentive reflection - "This, says Dr. Gregory, is doubtless a correct and scientific explanation of a large majority of maniacal aberrations; but whether it includes them all, is a point upon which pathologists still continue to differ" - From the diversity of views which have been taken of the precise condition of the mind which constitutes insanity, we may I immagine deduce some important conclusions - 1st That all the faculties of the mind are capable of being affected in the manical state

though not equally, or at one and same time - 2nd That it is hardly possible to express by words the nice distinctions that mark the boundaries of reason and insanity, or to specify the delicate gradations by which weakness of intellect, depression of spirits, violence of temper, and eccentricity of manner degenerate into actual disease - 3rd That in determining the questions of insanity or lunacy, the common sense of mankind must be relied upon, and that it's decisions can receive little or no assistance from metaphysical speculations. The opinion of the author is, that the faculties of perception and judment are both affected in every case of mania, and that neither is affected independently and exclusively of the other, as contended for by many authors - These faculties, however, are not always affected equally at the same time, for the morbid influence seems, for the most part, to shift alternately from one to the other - the perception at times appears to

be perfect and the judgment alone affected - at other times, we have the reverse of this - the judgment appearing to be perfect and the perception diseased. A case has fallen within the sphere of my observation very recently which has induced me to adopt this opinion - This case, by a single observation of it, would readily have lead many persons to believe, that the one or the other of these faculties was exclusively diseased; but by an attentive watching of the ~~case~~ progress of the case, the reverse would have been apparent - as was proved by my own observation of it, which resulted in the belief that there is an alternation of affection of these faculties, as stated above - The author further believes that all the faculties of the mind may be affected in this disease; but that the affection is chiefly seated in the two faculties first named, viz perception and judgment -

Causes.

These are still involved in much obscurity, particularly the proximate cause - From the close connection which exists between the brain and mind, and the fact that idiotism is in every case, connected with malformation of the cranium, it would seem proper to infer that the remote cause of the disease is ordinarily some misaffection of the cerebral organs; although dissection will not entirely justify such a conclusion - Yet I am inclined to believe it is correct - This misconstruction, in whatever it may consist, ~~in~~ renders the brain preternaturally susceptible of of the action of external agents, whether of the stimulating or depressing kind - In what this misconstruction consists, it is, perhaps, impossible to ascertain with absolute certainty - Some writers who have had ample opportunity for making examinations, assert that they have discovered

Gentlemen.

Have the kindly invitations to meet with you, I am particularly the Parliamentary Bounce - Given the great commercial interests which depend upon the trade and prosperity, when the fact that I do believe it is a very great, commercial truth the prosperity of the Canadas is intimately bound up. Perhaps it is given that the Canadas of the colonies are ultimately have their prosperity of the general system. Although depreciation which at intervals prevailing through a commercial - and I am inclined to believe it is correct - this commercial prosperity, in the aggregate, is, when the Canadas particularly dependent upon the prosperity of the colony of Britain and consequently, the interest of the commercial and public interests of the Canadas - I think that the Canadas, at all events, are particularly to adopt a certain certainty - those interests have been capable of flourishing for nothing commercial, and that they have been increasing

abnormal conditions of these organs (cerebral) - such as a thickening of the membranes, thickening or attenuation of the parieties of the cranium - distortion of these bones &c. While others contend that they have not been able to detect any morbid appearances which are not found in other diseases affecting this organ. The evidence, however, certainly preponderates in favour of the first opinion, and reason would certainly tend to corroborate it. I believe this misconstruction to consist in an undue supply of blood vessels to the brain, either as regards volume or number, together with an extreme mobility of that organ, similar to that which is associated with Epilepsy. The exciting causes are various. Extremely vivid affections of the mind appear to constitute the most prolific sources of this disease, such as, ungovernable love, disappointed ambition, religious fanaticism, domestic misfortune. or indeed any thing capable of morbidly exciting or depressing the ~~brain~~ mind either directly or indirectly. Hence those who are its victims, chiefly, are engaged in

in some professions in which the imagination is unceasingly or ardently employed, and not governed by the more moderate faculties of the understanding in it's undue excitement - Therefore ministers of the Gospel poets, artists, painters &c. are frequently affected with this distressing malady - There are corporeal causes which not unfrequently give rise to this disease, such as, parturition, masterbation, extreme continence, abortion, and intoxication - disease of the viscera is also said to excite the disease - this however, may rather be regarded as a consequence of the disease than a cause, in my opinion - Many others might be enumerated, but they are of doubtful character, therefore I shall not mention them - Various theories have been offered in regard to the proximate cause - Sir A. Crichton, assuming that the nervous power is a peculiar secretion of the brain or nerves, states that the proximate cause is a specific morbid action of those vessels which secrete the nervous fluid - and which hereby may be

altered in quality or quantity. Dr. Good thinks that from the quickness of the external senses, the irascibility, heat of the skin, flushed countenance, and uncommon energy which maniacs evince, we have reason to infer that this morbid action is for the most part a preternaturally increased action of these vessels, and that we are thus enabled to account for the various exacerbations and remissions which are evinced sometimes periodically, and sometimes irregularly. Yet, continues he, as the health of the mind depends necessarily upon a healthy energy of the ~~brain~~ vessels of the brain, a too scanty secretion of nervous fluid must as certainly be a cause of mental derangement as too copious a flow - and hence torpor of the vessels ~~and~~ or entony, may equally be a cause, and adduces typhus fever to prove the position, that atony may be a cause of the disease: But, says the Doctor, that there is a tendency not only to an increase of sensual power secretion, but to an accumulation of it in the brain

from all parts of the body, and especially from the surface, is clear from the patients diminished sensibility to the impression of external objects and his being able to bear the severest ~~winters~~ winters cold and a fasting of many days without inconvenience or even consciousness - But that there is sometimes diminished secretion of this fluid producing general debility of the living fibre, is also true from the great tendency which is manifested by some maniacs, whose brain gives no proof of increased excitement, to gangrene of there extremities, and where they are uncleanly, about the buttocks

Those who speak of a nervous fluid with so much confidence, have yet to prove that such an one is secreted by the vessels of the brain, or even to prove that it does exist - until they shall have done this, any hypothysis based upon it must be exceedingly vague and unsatisfactory.

The opinion of the author is that, in every case of mania, there is a morbid accumulation of excitability in the brain - accompanyed or preceded -

~~preceded~~ perhaps always, by some engorgement or inflamation of that organ - This condition may be produced either by causes acting primarily upon the Mind or brain - and thus destroying that relation between the mind and brain which is indispensible to the healthy performance of the functions of either. By excitability I mean that capacity of organized beings which renders them capable of being affected by those agents which are denominated exciting powers. Dr. Good asserts that Mania may as certainly depend upon a diminished elaboration of nervous fluid as an increased one, and cites Typhus fever to prove the position - Now, I am ready to acknowledge that, in Typhus fever, there is a diminished quantity of nervous power in the system generally; but it by no means follows that there is not an increased quantity in the brain, when compared with the organic capacity of the brain to bear stimulation, and especially of that part of the organ in which the judgment & perception are seated.

Varieties and Symptoms

The number of varieties made by different authors is exceedingly variable - some making more and some less than others - Conceiving, however, that no practical utility can arise from a division of the disease into many varieties, I shall make but two - The first I would call Entonic Mania or Mania attended with plethora and increased action - The second may be called atonic Mania or that which is attended with debility and diminished action - The exciting causes already mentioned may produce both these varieties -

Because of the diversity of symptoms which usher in a paroxism of this disease, I shall not attempt to delineate them very minutely; but shall merely mention those which are most prominent; and first of those which attend the first variety - viz an indescribable sensation in the head of the patient, sonorous and sudden shrieks at the same time,

Running from one part of the Room to another, saying to himself something that is entirely unintelligable to the bystanders - ferocious and suffused Countenance &c These are not to be looked for in every case, at least all of them, - Some of them however, will always be present -

The second variety is attended or characterized by by symptoms almost Entirely dissimilar - such as - Gloominess, dispondency, Exhaustion, disregard to every thing like decency, perverseness of disposition &c &c - I deem it useless to say more with regard to symtoms, as the disease cannot easily be confounded with any other -

Next with respect to diagnosis - Mania is a disease closely allied to many others, and indeed they may be regarded with considerable propriety, as varieties of mania - such as, Melancholia, Hypocondriasis, Delirium &c - Lines of demarcation have been attempted to be drawn between these

diseases

Thus it is said that, in Melancholia the alienation is restricted to a few objects or trains of ideas alone - While, in Mania, it is said to be general and consequently extending to every thing -
It may be distinguished from Phrenitis, in general by the absence of pain and intolerance of light which are always present in the latter disease - From Delirium, by the insensibility which there is in this disease, to the impressions of external objects and the entire occupation of the person with the disturbed current of thoughts - In Mania, there is generally activity of the mind with regard to surrounding objects - or a fixed and habitual despondency of it, not attended by that acute sensibility to external agents as in the other case, Delirium also generally attends high fevers while Mania, in the common acceptation of that term, does not - From Idiotism, it may be distinguished by recollecting that

the latter is always congenital; while the former never is - generally occuring about the age of thirty or forty - These lines of distinction, with the exception of the last, are not, in my opinion, satisfactory; I shall therefore not proceed further with a discription of them -

Prognosis -

Maniacal Patients generally recover proportionally to their youth - The hope of recovery increases with the length of time the disease has continued - Patients who are in a furious state recover in greater proportion than those who are gloomy and depressed - Mania connected with Epilepsy or Paralysis, is entirely hopeless apparently - Mania, from physical causes, is much more easily removed than any other species - When it is the result of hereditary predisposition, it appears to be irremediable

Treatment.

This is generally discussed under two heads viz. Moral & Medical. Upon the former much, indeed, depends, and in some cases it constitutes all the means of which we can avail ourselves. at least by far the greater part. Firmness on the part of the practitioner with conciliatory manners has accomplished much; but authority should be maintained, though occasional severity be required for this purpose. Every cause which would be likely to excite the the mind unduly should be most strenuously avoided. so that ~~the mind~~ it may enjoy as perfect tranquility as possible. Amusements that engage the attention without exciting the passions, and which favour exercise in the open air, not to such an extent as to produce fatigue, may be allowed to the best advantage. such occupations as gardening, bookbinding &c &c. are proper. Conversation, properly directed, will be found highly beneficial.

In many cases the patients would be benifitted by diverting their attention as much as possible from every former scene and associate - presenting to them a new world, as it were - and giving an entire change to the currant reminiscences and ideas. Any strange notions that may be advanced by the maniac, should not be directly opposed or contradicted; but, on the contrary, indirectly and in a pleasing manner.

The medical treatment must be regulated by the symptoms, and degree of action, according as they are violent or otherwise - If the action of the heart and arteries be violent and the patient in a plethoric condition, the antiphlogistic plan must be freely resorted to - ~~Lancet~~ The lancet, purgatives, emetics, and cooling diaphoretics may be freely had recourse to - Purgatives are of the highest importance in this variety of the disease, although in some cases of the other variety they would be found prejudicial -

Wherever there is much exhaustion, of course, they must be sedulously withheld.
In cases where there is much debility, and insensibility in particular parts, we should endeavour to equalize the excitability by every possible means - without increasing the debility.
Blistering the extremities and spinal column will be found highly useful. The warm and cold baths will prove beneficial - applying the former to the feet and the latter to the head at the same time - The bowels should be kept in a soluble condition by mild laxatives - Issues will be found highly beneficial, applied either to the nape of the neck or some other situation more remote from the brain. Digitalis has been highly spoken of in some cases of this disease, and I think where there is great mobility of the system generally, palpitation of the heart, frequent and hurried pulse -

Human Mind is founded on foundations of Reason, they must be absolutely infallible.

Good Nature Mind is founded on stability and unchangeability in particulars & such, the Mind is in Reason to equalize the Equilibrium of every Part of the Mind, instead in reasoning the Stability, Justifying the Extremities and Minute Extremes Mind is truly useful. The Mind has not Extent Infinite Power Lengthened. Applying the Reason to the Equal and the Letter to the Mind and the Same time. The Reason Mind is Equal in a Universal Consideration of Mind Infinite Is truly Lengthened, applying the Mind to the Image of the Part is a Same Mind Reason, Mind Lengthe from the Reason. Infinitely Mind Infinity Application of a Same Equal of the Reason, Mind & Mind Infinite Mind in Mind Infinitely of the Universal Equanimity, Equilibrium of the Mind, Measured and Numerical Power.

this remedy may be advantageously employed. These last mentioned means are not to be restricted in their employment, to the second variety; but may be used in the first variety with great advantage after due evacuation. Indeed we should be governed in the treatment of this disease as we ought in that of any other — by the degree of morbid action and the capacity of the patient to bear depletion or otherwise. The most important indication in the cure of any disease, is to ascertain whether there is action of a morbid character, and the degree of that action. Unless we can accomplish this, we cannot successfully eradicate disease.

This Remedy may be a chemical specifically employed. These Anti Mentagrian Means are not to be Administered in their simplicity, but may be used in the first Instance, first Lowering of the vital Energy with Spread of Lowering of the Circulation. In cases in Number is possessed in the treatment of this Disease as the equal in Relief of any other — by the degree of Medical Action and the Capacity of the Patient to bear Depletion or Attenuation. The most important Medicine in the cure of any Disease, is a Certain Infinitesimal Dilution of a Medicine that produces, in its degree of Pathol Action — Similar to the one to complete this, the Common Intermittently Remittent Diseases.

An inaugural dissertation
on
Phrenitis
respectfully submitted to the
Consideration of the
Provost and
Medical faculty of the
University
of Maryland
for the degree of Doctor of Medicine
by
Stephen H. Weems
of Maryland
on the 1st of March
Anno Domini
1833

To

Nathan R Smith M.D.

Professor of Surgery in the University of Maryland

Dear Sir

Permit me the honour of dedicating this to you as a testimony of that esteem and respect which your professional and private character inspire: and at the same time to return you my sincere thanks for your past polite attention and for the pains you have taken in fitting me for the profession which I am seeking to obtain.

And that you may long live to enjoy the happiness of your family, and to promote the cause of science and humanity by your valuable labours and bright example, is the sincere wish of your friend and private pupil

The Author

To

Nathaniel Potter M.D.

Professor of Theory and Practice of Medicine in the University of Maryland

This is respectfully dedicated as a testimony of the high respect entertained for his character and talents by his friend and humble servant

The Author

Phrenitis

As this is a disease of not unfrequent occurrence, and one to which the attention of the Practitioner will be often directed, I therefore propose in this dissertation to take a view of the subject as far as my own experience goes which is very limited, and beyond that I shall content myself for the present with the opinions of writers upon this subject which no doubt were founded on experience and accurate observation.

From the very delicate structure of this organ (the Brain) as well as the important function which it has to perform in the economy of the individual, renders it necessary that we should make ourselves acquainted with the phenomena of diseased action, for although inflamation here does not differ materially from inflamation situated in any other part of the body, yet we are generally able to trace the inflamation thus remote through the whole course

of the disease and to make any allowance for any accidental combinations by which it may be modified; but from the rapid consequences which all accute diseases of the Brain produce upon the sensorial functions, the patient generally becomes at an early period unable to express his feelings in consequence of which the symptoms which mark the true character of the disease are lost amid that suspension of all the ~~function~~ faculties to which the name of oppression has been given, therefore whenever this remarkable condition takes place it becomes necessary that we should always be ready and prepared to act promptly and if we are lead from the employment of the necessary means of cure by this or that symptom which we might suppose would forbid the employment of those ~~rigid~~ measures (necessary) the life of our patient must be the forfeit; for if inflamation is suffered to progress untill some of its consequences are apparent; or untill it may be.

minate in effusion, suppuration, adhesions, in most instances all attempts to save the patient will prove ineffectual.

Inflamation of the Brain varies considerably in its Character in different ~~in different~~ cases these varieties appear to be referable to three circumstances, the seat of inflamation, its degree of activity and the modes of its termination. It may be seated in the Dura mater the Pia mater, and subsequently in the other structures, though I do not think they are even primarily the seat of this form of disease, and not always secondarily. Yet in most cases they show strong marks of inflamation: inflamation of the cerebral substance alone is very rarely attended with violent delirium, and Pain which is so characteristic of the disease under consideration; nor is ~~is~~ delirium a very constant and prominent phenomena in Arachnitis, though often connected with severe

and lancinating pain in the head. Bichat asserts that the Dura mater is scarcely susceptible of inflamation. but other anatomists and those perhaps who have paid more attention to this subject state that inflamation is always very manifest on the surface of that membrane. Sr Shaw states "that it is generally as much blood shot as the conjunctiva in opthalmia with layers of lymph occasionally on the inner surface" the observations of Morgannie go to establish the same fact that the Pia and Dura mater show the strongest signs of inflamation. In its activity it varies from the highest degree of active inflamation to the chronic or scrofulus inflamation with the lowest degree of activity.

Inflamation of this organ may terminate fatally in a variety of ways according to circumstances. it may terminate by serous effusion. by the deposition of false mem

bone, by suppuration or by softenement of the cerebral substance: Dr Abercrombie who has written a valuable work on diseases of the brain says "that where effusion takes place it will sometimes be found ~~sometimes~~ in one place and sometimes in another. poured out in some cases in the ventricles, in others under the arachnoid, in others betwixt the arachnoid and Dura mater and we have every reason to believe it may be poured out between the Dura mater and bone" this termination is the result of sub acute or chronic inflamation giving rise to that form of disease commonly called Hydrocephalus, but of this we do not mean to ~~treat of or particularly~~ speak of farther than as a consequence of this variety of inflamation.

It may terminate in a deposition of a false membrane arising from inflamation of the membranous part and it may be deposited between the bone and Dura mater, be-

tween the dura mater and arachnoid, but most writers say under the arachnoid, as to the correctness of this however I am not prepared to say. It sometimes terminates in suppuration and it is generally found either under the arachnoid, dura mater, or bone.

Rarely though sometimes it terminates in ramollisment, which is a disorganization or softening of the organ, it may be found in any part of the Brain: It has been conjectured by some that ramollisment occurs chiefly in the white matter and suppuration in the grey; but on this hypothesis I am not disposed to dwell, for admitting it to be a fact of what practical advantage could it be? we should say none; but that it is the result of inflamation no one will pretend to doubt.

I will now proceed, in the first place to enumerate some of the symptoms which characterize this disease

but I shall not as some have done attempt to enumerate the symptoms which are supposed to characterize the seat of inflamation, but I shall proceed at once to mention to some of the most prominent symptoms which characterize this disease. In the second place some of the causes which give rise to it. lastly the most successful treatment.

Symptoms This disease is generally preceded by a temporate loss of recollection, disturbed sleep, pain and a sense of fulness in the head attended frequently from the commencement with nausea and vomiting, but as the pain and febrile symptoms increase, the patients face becomes flushed, eyes red and sparkling. great intolerance to light, hearing becomes painfully acute, the noise producing an aggravation of the symptoms, there is great restlessness and violent head ache; as the disease ad.

vances all the symptoms become aggravated the face becomes turgid the eyes wild & furious the carotids beat strongly. vision is imperfect complete deafness often occurs. the whole system is in a ~~complete~~ continued state of restlessness. respiration although hurried and anxious at first now becomes slow and laborious; delirium is generally an early attendant on the disease and soon in many instances acquires a degree of violence resembling the most furious and ungovernable mania. the Pulse becomes irregular small and tense &c.

Causes the causes which give rise to this disease are too numerous to mention indeed in a great proportion of cases the causes which give rise to it elude our observation.

This disease may be either Idiopathic or symptomatic. Idiopathic Phrenitis has been questioned by some writers but it may and does sometimes occur but ~~not~~ not often long exposure to the

direct rays of the vertical sun will sometimes give rise to this form of disease. it may be occasioned also by direct blows upon the head: ~~but~~ the symptomatic affection is of much oftener occurrence. it is often the result of violent febrile affection as continued and Typhus fever. Scarlatina measles &c a patient recovering from attacks of those diseases in a mild form especially scarlatina or measles exposes himself to a low temperature is soon seized with a chill followed by fever head ache and all the symptoms characteristick of this disease. it may follow injuries and these perhaps are ~~the~~ most frequently the causes than we are aware of, the injury being often slight, an the interval very considerable betwixt it and the appearance of any alarming symptoms, suppression of habitual evacuations, as suppression of the menses. this indeed is a very frequent cause of the dis-

case in young women of unsound constitution, the suppression of urine from some cause or other may give rise to it. another very frequent cause in men and sometimes in women is the habitual use of ardent spirits. or the habitual use of some of the other narcotics. violent passions the sudden influence of cold while the body is in a free state of perspiration is not unfrequently a cause of this disease, metastasis of Gout erysipelas, and paralysis and the extension of other external inflamation about the head to the brain will sometimes produce it. it is sometimes met with in small pox. phlegmonous inflamation on the region of the head. in some there ~~there~~ is an hereditary predisposition to this form of disease. it occurs sometimes with affections of the lungs; nothing is more apt to produce it than intense application of the mind. disappointed ambition &c.

Prognosis If Coma insensibility, convulsions palsy, or great prostration of strength supervene early they are considered unfavourable symptoms, hæmorrhage in the advanced stage of the disease, particularly if from the bowels is considered a very unfavourable symptom, but hæmorrhage from the nose in the early part of the disease may be considered favourable, and seldom or ever fails to mitigate the symptoms. Consequently it should be encouraged. the abatement of the general fever, of the sparkling fury of the eyes. of the delirium of the dryness of the skin. these are sufficient to show that the patient is likely to recover. in general Phrenitis is attended with considerable danger and the unfavourableness of the prognosis must of course be proportionate to the symptoms and the degree of obstinacy with which they resist our remedies.

Treatment In the treatment of this disease the remedies are few and simple, but every thing depends upon the use of them being adapted at an early period and in a decided manner: there is no inflammatory affection which more urgently demands a vigorous employment of all the anti phlogistic means than the present one, therefore our first object ought to be to lessen the vis a tergo of the heart or the determination of blood to the brain, and to accomplish that blood letting must be practised, and that to a carried to a considerable extent, if the patient be one of a full plethoric habit it should be carried to the extent of inducing an approach to syncope, it matters not from what part blood is drawn. Provided you take a sufficient quantity. some prefer ~~[illegible]~~ drawing blood from one part, and some

another. but if blood be suffered to flow from the arm through a large orifice in a sufficient quantity there will be no difficulty in lessening the flow of blood to the brain. the patient should be kept in a dark silent and cool room, and every thing avoided which has a tendency to disturb or excite the system. no one should be suffered to enter the room except ~~[illegible]~~ the physician and nurses. the patients head should be shaved and kept elevated so as to prevent in some degree the blood from remaining in the brain. although bleeding is always more servisable when practised at the commencement of the disease yet it is necessary to take it either generally or locally throughout the whole course of the malady if the pulse remains tense and frequent, we must not be alarmed at the quantity of blood taken for it is impossible to

to tell how much blood a man can lose in this disease therefore we must be governed by the effects produced, much can be done after premising general bleeding by the application of Cups or leeches to the temples. Cold applications must be freely employed to the head and the best mode of employing it, is to fill a bladder about two thirds full of water and put into it any quantity of ice, it is then to be applied to the head, this undoubtedly is the best mode of employing cold to that region. The cold bath has been highly spoken of by some in the treatment of this disease ~~[illegible]~~ indeed this in the hands of our learned Professor Dr Potter has proved to be one of great importance; the Dr says "it is a justifiable practice in a highly inflamatory case of Phrenitis and by no means dangerous", keeping the

patient in it untill inflamatory action is reduced.

Purging if considered seperate is not of much importance in the treatment of this disease but if employed with blood letting is of great value: Some persons recommend the employment of Calomel in this disease, it may be useful under some circumstancies but generally speaking it is an unsafe article: the neutral salts are among the best

Dr Abercrombie speaks in the most exalted terms of Croton oil as a remedy in this disease and no doubt it is a good article in those cases where violent constipation attends which this article will necessarily remove; and at the same time it may act beneficially by making the intestines the center of fluction in consequence of the irritation which it is liable to create; and no doubt it is in this way that it does good.

but to return again to the neutral salts, they are not only good on account of their evacuating properties, but on account of the tendency which they have of lessening inflammatory action, and this property is much augmented if some of the antimonial preparations be added so as to act ~~upon~~ on the skin at the same time. digitalis too may be employed combined with nitre. these articles are to be employed in small and frequent doses untill we produce some symptoms of gastric disturbance, or ~~some~~ a reduction of the frequency and activity of the pulse.

Blisters This remedy when properly applied may and will prove useful, but as a general rule they are never to be employed untill we can no longer practice blood letting local or general, then they may be applied not as was generally the practice to cover

the whole scalp for if applied in this manner will in most instances prove injurious. but they are to be applied to the back of the neck. very fortunately for the patient a blister will rarely act if applied in the highly inflamatory stage. but if one fact be borne in mind a mistake of this kind would never occur that is that object of a blister is to strengthen the weakened vessels after inflamatory action has been subdued, therefore proper attention must be paid to the time of applying them. Diet, the diet of the patient should be of the mildest and of the antiphlogistic kind. his drink should be mild and unstimulating, and of these little should be allowed at a time: with these precautions (and taking care to avoid every thing which might have a tendency to reproduce the disease) your patient will soon recover.

An
Inaugural Dissertation
on
Scarlatina
Respectfully submitted to the
Provost, Trustees & Medical Faculty
of the
University of Maryland
for the degree of Doctor of Medicine
by
Triplett C. Grew
of
Loudoun County Virginia

March 1833

Scarlet Fever

In entering upon the consideration of this contagious malady we have to lament the discrepancies among theorists; and the want of harmony among practitioners, Many facts have been gleaned from the wide field of experience and recorded in the archives of medicine and many deductions have been drawn therefrom but owing partly to the peculiarities of season, climate and localities and partly from predilection for preconceived opinions they have been made the data of various and too frequently contradictory theories.

Facts ~~misunderstood~~ untortured, always speak a plain and intelligible language but the ordeal of criticism like the rack and the wheel often elicit the language of hypothesis. Every Disease exhibits certain morbid phenomena both before and after death; but these are subject to certain modifications atributable to idiosyncracy as well as an Epidemic constitution of the atmosphere and although there are certain symptoms common to and necessary to characterise each Disease; there are

certain others altogether contingent - and therefore may or may not enter into the general catalogue. This circumstance never fails to spread its mysteries along the path of inexperience, and sometimes the Ignis fatuous leads to the fatal precipice. The efflorescence is common to every species of Exanthemata but Angina, Maligna &c are mere contingencies

But these have been exalted into different species of the same disease no doubt for valuable practical purposes It has been too long the practice to prescribe for names rather than symptoms and this has originated a necessity for numerous Nozological distinctions which have no foundation in truth - It was in full view of this fact that the celebrated Brown exclaimed "Nozologia damnanda", Armstrong who is well known to the profession has treated of Scarlatina under three divisions. viz. Scarlatina Simplex S. Anginosa, and S. Maligna, Cullen has given us two species Cynanche tonsillaris and C. Maligna; Others have treated of it under a single head as Morbilli Febris Miliaris Rubra, Febris Rubra, Mal de la rosa, Porphyrisma &c as expressive of its general character. —

If it could be believed that with the inexperienced the application of remedial agents had no dependence on nosological distinctions; we would deem it unnecessary to increase the number the number already before the public; but from a conviction that with every disease the remedy is associated in the mind of every well read student, and that when one is presented, the other simultaneously presents itself also. therefore some practical advantage may result from the introduction of another term, which is merely expressive of a symptom. The single term Rosalia or Scarlatina with a proper delineation of the attendant and varying symptoms would have been sufficient; but writers having made certain distinctions founded upon contingent symptoms only, it became necessary to multiply distinctions in the same ratio with the symptoms. The Anginosa & Maligna which occasionally accompany this disease are not more prominent symptoms than the Coma which generally manifests itself in the more fatal cases, and if the two former require particular and appropriate treatment, the latter is still more urgent in its demands, he would therefore denominate those cases Scarlatina Comatosa or Somnolent Scarlatina.

It is scarcely possible to conceive of a disease more highly congestive and inflammatory than the higher grades of Scarlatina. The inflammatory diathesis is general, but the congestion is local.

The glandular system seems to be the most vulnerable part, from which we may infer that the peculiar miasm producing Scarlatina has a particular tendency to the glands, or else that they have less power to transmit their secretions in the ordinary way, than any other organs in the body.

It is usually ushered in with a slight chilliness, which is soon succeeded by a high degree of febrile excitement. It is strictly speaking a caumatic fever, but as atonic is the common consequence of entonic action this high excitement soon leads to great debility: there is not only great prostration of strength, but general languor, stupidity, coma, and a tendency to gangrene; all of which may be considered as the precursors of a fatal catastrophe. These symptoms all indicate a high degree of cerebral oppression either from excessive nervous irritation, or from what may be the consequence of such irritation, viz. high congestion in the great sinuses.

Whether the specific miasm producing Scarlatina operates directly on the nervous system, or secondarily through the medium of the Blood, it is not easy to determine, but from the great determination of blood to the surface where the perspirable pores afford so many outlets, it would appear as if nature intended by that means to throw off a certain morbific matter which was inconsistent with the healthy functions of the animal economy.

The Scarlatina Simplex is the mildest form of this disease, consisting merely in a slight febrile action with an efflorescence on the skin very variable in degree

The Scarlatina Anginosa is usually attended with the foregoing symptoms together with a topical affection of the throat. In this modification of the case, a preternatural redness about the velum pendulum palati is among the first symptoms. This soon extends to the fauces involving the pharynx & larynx in the general inflammation. The tonsils are generally covered with aphthous ulcers and sometimes with deep mortified spots. The parotid & submaxillary glands frequently swell and inflame at the same time, and sometimes suppurate. And occasionally the axillary, mammary & inguinal become affected with inflammations, but do not so frequently suppurate.

The scarlatina Maligna is an aggravation of the topical affection of the throat. The gangrenous tendency is the consequence of the high degree of inflammatory action which had preceded, and by which the healthy tone of the vessels was destroyed. Whenever a vessel becomes incapacitated to transmit the fluid, a stagnation of it is inevitable, & hence an enlargement follows.

In the Scarlatina Comatosa there is seldom any topical affection of the throat to any considerable degree. Here the determination is to the Encephalon. In this case the powers of the constitution and the energies of life are suddenly overwhelmed and destroyed; yet the efflorescence makes its appearance as usual but without affording the least mitigation of the primary symptoms. The patient lies slumbering as if alike unconscious of suffering and danger and seldom wakes to a sense of pain unless the false repose is disturbed in order

to administer the means of relief. Under circumstances like this the enemy may be considered as in possession of the fort, from which he cannot be easily expelled. So long as the nervous energies of the system remain unimpaired the prognosis may be favorable, unless there be present that kind of congestion of the Chylo-poietic system, and torpor of the alimentary canal as renders the necessary secretion impossible even under the influence of the most powerful Cathartics. It is well known to Practitioners that high congestions whether Cerebral or Abdominal are alike dangerous, because of the restraining influence they exert over the most active purgatives. This fact did not escape the philosophical acumen of Prof. Cooke who in his "Pathology and Therapeutics" has justly referred the suppression of milk after parturition to a high degree of Congestion in the Mammary Gland. There is also a high degree of Capillary Congestion in this Exanthem; hence the peculiar floridity of the surface, with the burning and tingling sensation attendant on the eruptive stage. All these symptoms show the want of an equilibrium in the sanguiferous system and that there is some retardation offered to the returning blood. That the Blood is thrown out by the propulsive power of the heart we have the clearest evidence, but that it does not return with equal facility and freedom, we have evidence equally clear.

While the peculiar miasm of this fever operates upon every part of the living body, it has a particular morbid influence on certain parts as the Brain.

the liver, the glands generally, and the cutis. All of which are affected through the intervention of the blood. In every fever this fluid is thrown into a general commotion; but in the eruptive as Dr. Good observes, it is thrown into a kind of fermentation. This appears to be the effect of a certain law of nature denominated by Physiologists "Vis Conservatrix"; by which the offending materials are thrown off. Although we cannot allow this to be an intelligent principle, yet there certainly is in every living body a preserving power which exists prior to experience and independently of reason. Whether the general desquamation which follows all the severe cases of Scarlatina is the effect of this principle by which the offending matter is thrown beyond the living structure, and by which the cuticle is separated from the Cutis; or whether it is the consequence of the high degree of cuticular inflammation by which the extreme terminations of the Capillary arteries are destroyed, it is difficult to determine, but it is certain that it demands this tribute of its subjects mostly. In this disease the danger does not terminate with the morbid excitement or inflammatory diathesis, for this is of short duration; but it entails a sequela more dangerous & more frequently than any other disease. Almost every species of Marasmus occasionally follows it; as Tabes Dorsalis, T. Phthisis, T. Scrofulosa, T. Mesenterica &c. But of all the secondary diseases from Scarlatina is far the most common. From this it would appear that while the exhalent arteries are left unimpaired, the absorbents have so far lost their

functional powers as to be unfit for the purposes of the animal economy; and therefore, aqueous infiltrations, occur in particular parts of the body, or in the cellular membrane generally. To this catarrhal affections succeed, attended with great irritability of the pulmonary system and morning exacerbations of long continuance. It has been very appropriately called Pandora's box, as containing all the evils with which mankind are afflicted; and what is to be more lamented still, it too often cannot be brought under the control of medicine.

It is an easy task to write the history of a disease, but it is often a task of much difficulty to lay down both a rational and successful mode of treatment, and perhaps in the long catalogue of maladies there are but few which more frequently embarrass the Pathologist, and challenge the skill of the physician than the Scarlet fever. The poet may describe the storm, but the winds, the clouds, and the lightnings all refuse to acknowledge his control. And Scarlatina while it displays in vivid colours its formidable phalanx, it too frequently cannot be subdued by any known remedy. It is characterized by so many indications and extra-indications that the most consummate sagacity cannot be prepared to meet and contend with them all. Notwithstanding the highly congestive and inflammatory character of this fever Dr. Good very justly observes "With the exception of Typhus Miasm there is nothing that so much

exhausts or rather, perhaps suppresses the secretions of sensorial power
"the miasm of Rasalia" (Scarlet fever) Vol III. P. 19. This fact has been a
prolific source of error in Practitioners, and of misfortune to patients: And it
is one of the few remarkable cases where true pathology has led to false thera-
peutics. The indirect debility has lead to the too early use of Tonics and Stim-
ulants which have increased the danger; they were intended to diminish
perhaps great allowance ought to be made for certain peculiarities of
climate and other atmospherical influences which may introduce ty-
phoid symptoms and a tendency to gangrene at so early a stage as to pro-
hibit depleting remedies altogether; and to require even in the incipient
stage the most powerful tonics, to restore and support the lost powers of
the constitution, but most certainly where these symptoms do not exist
nothing can be more remote from sound principles and rational practice.
In Scarlatina simplex very little Medical aid is required, yet a few ounces
of blood drawn from the arm, an emetic and cathartic, with an infusion of
sudorific herbs will be useful the febrile excitement, & shortening its duration.
In S. Anginosa the most active means furnished by the Materia Medica are
called for. Here the topical affection of the throat - the difficult deglutition
and impeded respiration all conspire to admonish us of the danger. If
the physician has an opportunity of seeing the patient during the first feb-
rile paroxysm there should be no hesitation about abstracting blood

Dr. Armstrong warns us of the danger of bleeding after thirty hours have elapsed, while Drs. Withering & Good object to bleeding in every stage of Scarlatina, but the writer has seen a delirium suddenly removed and the highest febrile symptoms relieved by a second bleeding when the first one had been delayed until more than fifty hours had elapsed; but this perhaps was an extraordinary case. The pulse are generally hurried, but feeble, yet they are seldom rendered more so by bleeding but on the contrary they generally rise and become more full. But there is no single means in which so much confidence is to be placed, and from which so many beneficial results are to be expected as from puking. This should not only be resorted to at the commencement, but it should be continued daily so long as the symptoms generally are urgent, and those of Angina particularly. And for this purpose a combination of the Nitr. Pot. and Tart. Antim. in the proportion of ten grains of the former to one of the latter is preferable to any other medicine. It not only acts as an emetic, but it may be so managed as to act as a cathartic also, and at the same time it is one of the most powerful refrigerants and antiseptics known. The Hydrarg. Sub. mur. should be given with this preparation or else immediately after its operation as an Emetic, has terminated; and the dose should always be of such magnitude as to insure

very free evacuations. It is well known to the profession that a torpor of the visceral secretions always attends congestive fevers, and that extraordinary doses of Medicine will only produce ordinary effects, therefore the dose should be proportioned to the exigence of the case. The writer has given two hundred grains of Calomel with five drops of Croton oil, given with success to a patient six years old. Every grade of Scarlatina is a kind of compound fever, being always attended with high bilious symptoms, and consequently it requires a free secretion of that particular fluid.

Discutients and revulsives are not less necessary than the preceding remedies, the former should be applied to the throat and the latter to the Mucosa. The ley poultice is one of the best discutients and an epispastic the best revulsive. The Scarlatina Anginosa is the introductory stage to S. Maligna; if therefore the general fever can be subdued and the topical swelling repressed during the first, it will be a preventive to the last; but when it has reached this point, very different remedies both local & constitutional are required. The Cinchona or Sulphat of Quinine with the Sulph. Zinci constitute the best constitutional remedies, and the Tinct. Capsicum; Labarraque's preparation of the Chloride of lime, & Pyroligneous acid the best local ones.

With the last mentioned article the gangrenous parts should be touched in its concentrated form. Snake root, combined with Nitre may at this time be used to an advantage as a tonic and antiseptic. Objections have been made by some highly respectable authorities to bleeding, blistering and leeching in Scarlatina in consequence of the gangrenous tendency; and the difficulty which frequently attends the healing process. This objection has some foundation in truth, yet such a case happens but seldom, and the principally may be generally admitted that where any danger is liable to arise from that cause, the patient cannot be saved without some one or all those means: therefore as they afford a chance of life where it cannot be saved independently of them the physician is justifiable in resorting to such an expedient. In Scarlatina Comatosa, when the congestion instead of falling upon the throat, is referred to the Brain, when the curative indications are the same, only the means must be applied with greater diligence, and carried to a greater extent. It is true that in this, as in all other cerebral congestions an emetic is a remedy of doubtful efficacy, because the effort of puking tends to increase the determination of blood to the encephalon, and therefore should be employed with a considerable degree of caution.

But bleeding is justified in this case even by Dr. Good who is opposed to it generally: but Armstrong and others advocate it in the most strenuous terms. It is true that where the somnolency is great, but little is to be expected from any means, but to use the language of a modern writer "There is a right and a wrong in human actions and therefore it is the physician's duty to use the best means in the most hopeless case. Evacuations both from the veins and the bowels should be free, and limited only by the existing coma; and when blood cannot be abstracted from the arm, the jugular vein, or the temporal artery should be opened. The writer saw a case of Scarlatina Comatosa in a young lady, where the stupor lasted about seventy hours. Angina in the most aggravated form was present also & deglutition impossible, and therefore no medicine was administered during this time but the mouth was kept lubricated by frequent drops of cold water. Yet by the aid of two copious bleedings, frequent injections, and cold affusions she was saved. Drs. Currie, Armstrong and Good, all concur as to the propriety & utility of cold affusions in scarlet fever, Dr. Good whose authority will not be questioned speaking of the burning which attends the cuticular inflammation says "But our chief dependance for this must be upon Dr.

Currie's bold and happy plan of employing cold water freely. Sponging will rarely be found sufficient, or rather will rarely be found of equal importance with affusion, the fluid may indeed in this case be dashed against the patient till the heat is subdued, and the process be repeated as fast as it returns". Vol 3. Pp. 20. The warm treatment of Scarlatina most probably originated in the humoral pathology which taught the doctrine of Concoction & desquamation, and therefore every attempt was made both by Clothing and regimen in all the different exanthems, to mature peccant matter, and throw it in the greatest possible abundance upon the surface.

The variola, varicella and exanthematous plague were made with Rosalia (or Scarlatina) different species of one genus, and consequently regulated by the same laws, and therefore the curative indications were considered the same. This was the doctrine of Aaron of Alexandria before the Christian era, and since of Willan and others. Rhazes was perhaps the first to correct the error, and to withhold the fuel which was calculated to support the flame of febrile fires, and the first to recommend the cold treatment

The following passage from Dr. Good is so valuable that we cannot suffer it to pass unnoticed. "The grand principle in the treatment of Small-pox, as of all the other exanthems that have passed before us, is to moderate and keep under the fever; and however the plans, that have been most celebrated for their success, may have varied in particular points, they have uniformly made this principle their Polar Star, and have consisted in different modifications of fresh air, cold water, acid liquors, and purgative medicines. Heat, cordials & other stimulants, having been abundantly proved to be the most effectual means of exasperating the disease and endangering life." Vol 3. pp. 75. It is well known that Small pox is rendered mild by mercurial purgatives, and particularly when carried to the extent of Ptyalism, therefore analogy would lead us to employ them with great freedom in the disease under consideration. There are however certain cases of constitutional temperament, where the plan of treatment above laid down is scarcely admissible, and that is the leucophlegmatic. In these the plan of the disease may be expected, for here there is a peculiar constitutional susceptibility to the contagion, and a peculiar irritability

under its action. In all such there is an early developement of the scrofulous diathesis which shows that the disease is exerted more in the lymphatic, than in the sanguiferous system. The pulse in all such, is feble and faltering, and the cutaneous vessels but little excited, therefore the efflorescence is never considerable but in the sanguineous and plethoric, who show great excitement in the cutaneous, and capillary vessels, there can be but little hesitation about the use of the lancet, the calomel and the cold water, and particularly when the disease occurs in the summer, the advocates of homoeopathy would contend that the miasm which produces the exanthem possesses the power of assimilation, and from its introduction into the system, a general vitiation of the fluids follow, and that the vis conservatrix throws it upon the surface in order to relieve the system from its irritative influence, and the practical inference drawn therefrom is that the efflorescence should be promoted by sudorifics, rather than repelled by reducents.

We have reason to believe there is some truth in the position assumed, but the inference stands opposed to universal experience. Vaccination had put in a great measure supplanted the small-pox, and the warm regimen had continued in the treatment of it

it would have depopulated the world before this time.

Whether humoralism be true or false, it is certain that in Smallpox, both the pustular eruption and the constitutional irritation are greatly aggravated, and proportionally reduced by the Acid regimen. Independently therefore of experience, analogy should direct the application of those therapeutical agents in one case that have been found useful in another, provided a similitude existed between them.

The calamitous sequelæ are not less difficult to treat than the primary fever. The different species of marasmus in whatever way they originate challenge the most assiduous application of remedial agents, and too often these fail of success. The Tabes Scrofulosa which though of common occurrence does not often prove fatal. It erats itself upon some of the large glands mostly those about the neck, these become first indurated which occasionally yield to discutient applications, joined with internal remedies, but frequently they suppurate and continue to discharge purulent matter; showing at the same time an indisposition to heal. Tabes Pthisis occurs less frequently, yet the writer has seen it in a very young subject where the Hectic fever

maciation, expectoration and other unequivocal symptoms left no
ems for doubt; for such a case a prescription would be but a
ellly ceremony. Tabes Mesenterica with Enteric symptoms is
a common occurrence. The Abdomen becomes enlarged; the
digestive organs greatly impaired, and the countenance pallid
d ghastly: While the evening exacerbations and nocturnal per-
spirations join in the Catalogue of morbid appearances, all
which tend to increase the general wasting of the body.

Dropsical affections are common followers of Scarlet fever, but
most generally in the form of Anasarca; though it is presumed
that a frequent termination of Scarlatina Comatosa is in Hydro-
cephalus Internus, but no opportunity has been offered to confirm
the presumption by Post Mortem examination.

To meet this formidable phalanx of complicated diseases with
appropriate prescriptions and successful remedies, must be a sub-
ject of the deepest solicitude with every human practitioner of
medicine; But it must be confessed that disappointments
so frequently follow the most judicial application of the most
powerful curative means. One principle may be laid down how-
ever as incontrovertible, being founded on experience and that is

those who are most freely evacuated in the beginning are the least liable to the secondary forms of disease. To subdue the fever in its early stage, before it has time to waste the powers of the constitution is to protect it against the invasion of other diseases. There is something in these which bears a striking resemblance to the policy of Kings, where if one commits an extensive depredation, a second will immediately seek a participation in the spoils; so when one disease has invaded the body and broken down the powers of the constitution, the way is paved for the introduction of another. It is therefore a desideratum in all febrile diseases, and particularly in scarlatina to remove the topical congestions and reduce the inflammatory action as soon as possible, and thereby prevent the loss of functional power, which is too often a fruitful soil of further calamities. Something like nine tenths of all the functional derangements and chronic visceral inflammations spring from a culpably feeble practice in acute diseases. If in the outset sufficiently active and energetic means were employed and the phlogistic diathesis brought under control at an early stage society would not be so much burthened by invalids.

And this remark has a more particular application to this
tion perhaps than any other disease: even Scarlatina Sim
ple from mere neglect frequently terminates in some one
the secondary diseases, and becomes a source of very serious
misfortune. When the sequelae make their appearance
make their appearance, they demand a treatment according to
circumstances, Idiosyncrasy &c. Tonics & restoratives however as
general means are entitled to more confidence than any other.
Whatever tends to restore the lost tone of the living fibre, and to arouse
the dormant, but recuperative powers of the animal economy may
be used to advantage. For those scrofulous affections already referred
to the muriate of lime, may be justly considered as among the most
successful remedies. When there is great emaciation accompanied with
debility, Camphor, Vol. Alk. Sulp. Quin. & Sulp. Zinc in various proportions
and combinations may also be given with success. To repress & disculp
the indolent, glandular swelling, before the process of suppuration
has commenced, an application of the Ointment. of the Hydriod. Potass
and Hydrarg. in the proportion of one part of the first and eight of
the last. In those dropsies which follow Scarlatina the use
of Hydrogogues is generally superseded by Simple Tonics.

These seldom require any adjuvant. The celebrated preparation of Calomel & Squills should most certainly constitute no part of the treatment for the obvious reasons that the emaciation and glandular swellings forbid the first, and the stomach is almost always too irritable to bear the last.

We come finally to the conclusion that in the first stage of Scarlatina, or during the febrile excitement, depletion both from the blood-vessels and Bowels is necessary, and that it should be proportioned to the degree of fever, Cynanche or Coma present, and where the symptoms are urgent, and bleeding impracticable, then scarifications & cupping are the best substitutes: Cold if the weather should be warm, and the cuticular inflammation great cold water should be applied to the surface with great freedom. If Coma should be present, pounded ice should be applied to the head. If the weather should be cold tepid water should be used with a sponge instead of cold affusions, In this way the heat of the system is carried off by evaporation.

An inaugural dissertation on
Phthisis Pulmonalis
respectfully submitted to the
consideration of the
Provost and
medical faculty of the
University
of Maryland
for the degree of Doctor of medicine
by
Grafton Tyler jr
of Maryland
on the 5th of March
Anno Domini
1833

Principiis obsta, sero medicina paratur;
Cum mala per longas convaluere moras.

To Richard Duckett M.D. Prince Georges County Md.

Sir

A sense of duty directs me to inscribe to you the first fruits of a course of studies, commenced and continued under your direction. The relations in which I stand to you as your pupil, should alone be sufficient to make this duty imperative, but your politeness and attention to me at all times, and the interest you have always manifested in my welfare, demands from me an expression of the grateful feelings which I entertain for your kindness—

Allow me then, the honour of dedicating to you this dissertation, in testimony of my admiration for your professional talents and the high regard and respect which I entertain for your private worth — I beg you, dear sir, to accept this tribute

from your much obliged friend and pupil

Grafton Tyler jr.

To Samuel Baker M D professor of Materia medica in the University of Maryland —

Sir

permit me to inscribe to you the following pages as a grateful tribute for the benefits which I have derived from your publick lectures and private instructions, and also as a testimony of that respect and esteem which your professional and private character equally inspire —

That the medical profession, and society in general may for many succeeding years continue to be benefited by your valuable labours and brilliant example is dear sir the anxious wish of

Your friend and humble servant —

Grafton Tyler jr

To Nathaniel Potter M.D. Professor of the theory and practice of medicine in the university of Maryland

Sir — Every branch of medicine may justly claim your protection; but the subject of the present thesis belonging more particularly to that department in which you have rendered your name so illustrious — it would be a dereliction of duty on my part — were I not to dedicate to you the first fruits of instructions recieved at your hands, and it affords me the more pleasure to make this offering, due to your exertions in that university, among the alumnii of which I am proud to be numbered, when I reflect that the first class assembled in her halls, were enlightened by your wisdom, and directed by your judgement; and ~~that~~ from that period, your labours have been continued with such eminent success, as to elevate the character of the institution, extend its fame, and render your name not less renowned.

That your declining years may not be rendered less valuable than your former life — and that you may long live to enjoy the record of your labours is, dear Sir, the sincere wish of your

Most obedient Servant —

Groston Tyler jr

Phthisis Pulmonalis

The introduction of a more correct pathology or a more effectual plan of treatment in this disease, than that generally adopted at the present day, (it is almost useless to say) is not the object of the author of this dissertation. Such an attempt at innovation would be presumption in him - The most laborious exertions, the most scrutinizing investigations, and most profound researches, of the learned physicians and philosophers, from the first dawn of medical science, to the present age have all been employed to bring to light the arcana of this disease With what benefit to mankind - let the ravages of phthisis pulmonalis at this day proclaim - It would then be worse than folly in me to trust my feeble abilities and limited experience for the performance of an object, to which the combined research and wisdom of centuries have been inadequate - It is the purpose of this dissertation, only to take a cursory review of the most prominent features which have heretofore characterized the investigation of this subject and to state the pathology of the disease at present adopted with the most approved method of cure, omitting the various fanciful conjectures and numberless hypothetical speculations to which it has given origin - prescribing such limits to

my investigations, will, I feel confident, absolve me from the charge of temerity or presumption, which I certainly should have deserved, had I entered upon those investigations with that forwardness which is only characteristic of ignorance and empiricism — Whatever objections I may make to opinions which do not accord with my own shall be offered with that respectful consideration and deference due to those who candidly and honestly express their opinions according to the best light of their understanding — Non res fallaces; sed res probatæ, being the object of my efforts — I have examined with attention the opinions of the present day on this subject and while I observe with pleasure the advance of information and improvement — It is no less a source of regret to find that a certain and effectual mode of curing phthisis pulmonalis is yet a desideratum in medicine, But I beg not to be understood as impeaching those who have preceded me, for I am fully convinced that the fault can only be attributed to the curative means which have been placed in our reach. Errors in pathology may be corrected, improvements in the method of cure may be made, the ravages of the disease may be arrested in a great measure and the sufferings of the patient still more alleviated, but that an attempt at an

effectual and certain mode of cure in the last stages of phthisis pulmonalis, will ever be crowned with success is beyond the reasonable anticipations of the most sanguine - such an idea is incompatable with the belief that the organization and functions of the animal economy must ever remain as nature has ordained them, fixed, immutable; This organization and the laws by which it is governed in its various functions, a correct knowledge of materia medica and their modus operandi, tell us emphatically not to cherish the delusive hope - But this consideration should not deter us from the investigation of this subject, on the contrary it should stimulate our efforts in effecting what may be done. There is still presented a wide field for enquiry, improvement, and invention, and we should not be tardy in our pursuit. As lovers of science, as medical phylosophers, as philanthropists we should not abandon it - Though we cannot reasonably anticipate a consummation of the hope of our illustrious countryman (alas no more) that at some distant day a sovereign remedy may be discovered at the foot of the Alleghany or on the banks of the Monongahela or that our gratification should accord with the extent of our wishes - Yet much may be done for the advance

ment of our science, the elevation of the high character of our profession and above all, for the alleviation of human suffering and the preservation of human life.

With Cullen I define Phthisis to be an expectoration of purulent matter from the lungs accompanied with hectic fever. Several varieties of the disease have been recognized, differing only as they depend on different pathological conditions of the respiratory organs the discrimination of which, from each other, is of much importance in a practical point of view. We think the division of the disease into three varieties — as arising from chronic inflammation of the mucous membrane of the bronchiæ; of the larynx and trachea; from inflammation and the formation of ronica or abscesses in the parenchymatous substance of the lungs; with hepatization — and from ulceration of tuberculated lungs — comprehends every distinction which may be made with advantage. The first of these varieties is the catarrhal or pituitous consumption of authors. The laryngeal or tracheal has also been made a distinct variety — but we will speak more particularly of these hereafter. The approximation of the system to that state which gives rise to the symptoms included in our definition of Phthisis, cannot

justly be said to be the incepient stage of the disease - though from the immediate succession of hectic fever and purulent expectoration to a certain train of symptoms, it is necessary to notice them as warnings of the approach of danger - for by a timely attention to them we may in many cases prevent the developement of any farther morbid action, and restore the system to its healthy state - Phthisis usually attacks persons of a weak delicate constitution, with great laxity of the muscular fibre, long neck, prominent shoulders, and contracted thorax; most commonly those of a scrofulous diathesis; indicated by a fair, soft, skin, rosy complexion, large veins, weak voice and thick upper lip; and as such habits are peculiar to certain families, when occuring in those it may with propriety be termed an hereditary disease - - It appears in persons of every age, but most commonly from about the age of puberty to thirty five or forty - It attacks females oftener than males, probably on account of the structure and conformation of their bodies and their sedentary habits. The causes which predispose to this disease in conjunction with the particular conformation of body and scrofulous diathesis -

already mentioned, are "certain diseases, as Catarrh, pneumo-
" nic inflammation, hæmoptoe, syphilis, scrofula, smallpox, and
" measles; particular employments exposing artificers to dust,
" such as, needle-pointers, stone cutters, millers &c or to the
" fumes of metals or minerals under a confined and unwhole-
" some air; violent passions, exertions, or affections of the mind
" as grief, disappointment, anxiety or close application to
" study, without using proper exercise; playing much on
" wind instruments, frequent and excessive debaucheries, late
" watching and drinking freely of strong liquors; great era-
" cuations, as diarrhea, diabetes, excessive venery, fluor albus, im-
" moderate discharge of the menstrual flux; and the continuing
" to suckle too long in a debilitated state; and lastly, the ap-
" plication of cold, either by too quick a change of apparel, kee-
" ping on wet cloathes, lying in damp beds or exposing the body
" too suddenly to cool air when heated by exercise; in short a-
" anything which gives a considerable check to perspiration {Tho-
mas's practice page 415. 16} Sudden changes of temperature in the
weather - together with the want of cloathing sufficiently warm,
particularly in females, contribute very much to the frequency -

of this disease." The more immediate or occasional causes of Phthisis
" are hæmoptysis, pneumonic inflammation proceeding on to sup-
" puration, catarrh, measles, asthma and tubercles, which in
" nineteen cases depend on a scrofulous habit, The connection
" between scrofula and pulmonic consumption is obvious, and
" generally acknowledged; the latter being nothing more than
" constitutional symptoms ingrafted upon a scrofulous diathesis.
(Thomas' practice page 416) Professor Potter thinks scrofula the pre
disposing cause of consumption in ten cases out of twelve. The
vast prevalence of Phthisis in Great Britain is by Dr Thomas attribu-
ted to the increase of scrofula among the people and also why there
are more cases of tubercular consumption than of any other; All
must be convinced of the intimate connection of tubercles in the
lungs with the scrofulous diathesis, This is manifest in the oc-
curence of Phthisis in scrofulous families and in persons who give
other indications of the scrofulous disposition. It is illustrated
also, says Dr Gregory, by the analogy which subsists between
the progress of inflammation in a tubercle and in a gland af-
fected by scrofula. In both it is of the same chronic kind, ten-
ding to the formation of the same sort of thick curdly pus.

It is brought on by the same causes and relieved by the same means. Phthisis has been supposed by many to be contagious, Dr Colhoun in his notes on Gregory says, "when we consider "that inflammation is produced by certain mucous membranes, as "in the eye by the contact of the matter of Gonorrhea, fluor al- "bus, or the discharge of the Egyptian Ophthalmia; that dysente- "ry, which consists of an inflammation of the mucous membrane "of the intestines, has been contracted from the use of the same "close stool with the sick; there can be no doubt, but that "the mucous membrane of the lungs, may also be inflamed "by the contact of certain irritating substances, and when "such men as Van Swieten, Morton, and Morgani, have be- "lieved in it, it must at least be received with respect. To receive and treat with respect opinions promulgated from such high and respected sources, I feel to be an incumbent duty, and more particularly when they are countenanced by one so entitled to attention and respect as Dr Colhoun, But I also feel it to be a duty incumbent upon all, to oppose whatever opinions they may judge erroneous and fraught with evil tendencies, wherever and from whatever source they may find them

emanating, no matter by whom "believed in" by whom countenanced or by whom upheld; There is no judgement infallable - There is no authority unapproachable - These considerations induce me to offer my feeble opposition to the combined influence and weight of such high authority - That the mucous membrane of the lungs may be inflamed by the contact of certain irritating substances, can admit of but little doubt; but that the substantiation of this fact, tends in any degree to prove the contagious nature of Phthisis Pulmonalis, does not appear to the best lights of my understanding Indeed! the Dr must have given the subject a very superficial consideration or my comprehension of his meaning must be very difficult - for I can neither see the application or force of the analogy which the Dr draws or the argument which he attempts to build upon it - They only show or rather make it probable, that the mucous membrane of the lungs may be inflamed by the application of certain irritating substances, and leave us to infer, that the irritating matter existing in the lungs of a patient labouring under Phthisis Pulmonalis, if applied to the mucous membrane of healthy lungs, would produce inflammation, that such an occurence ever would take place by direct contact is be-

yond all probability — That the air expired from the lungs of a Phthisical patient might convey this foul matter into the lungs of a healthy person, is a matter of no doubt; and whether it would produce inflammation is I think as little so, for we see daily instances where this effect is not produced — But admit that the lungs of a^n healthy person may be thus affected either by the direct application of this matter, or by its application through the medium of respiration, and what does it prove, certainly not, that Phthisis is contagious, unless inflammation of the lungs an^d Phthisis are synonomous, It is true this inflammation might proceed to suppuration and give rise to Phthisis But it is not singular in this respect — It is of no specific character. It differs in no degree from inflammation produced by any other irritating substance and consequently is not more liable to produce Phthisis — and I do not believe that the breath of a phthisical person is more injurious, by respiration, to healthy lungs than other foul air — That the respiration of this air for a length of time, might be injurious, not to the lungs particularly, but to the general system, producing debility and its consequences, is a very reasonable supposition, It would then

fore be well to caution healthy persons from sleeping with Phthisical patients — But the Doctor gives utterance to his feelings of kindness and compassion in the expression of the very praiseworthy opinion that "in medicine it is a good maxim to err on the safe side". No humane mind will differ with him in this sentiment; But we would not apply it in that sense in which the doctor seems (though unintentionally) to use it; While we have a due regard for our own health, and use all laudable means to keep on "the safe side"; we regard also the safety, comfort, and delicate feelings of the unfortunate victim of Pulmonary disease. 'Tis this ~~this~~ feeling of compassion for the sufferer which bids us banish from our minds, the immaginary idea, of the contagious nature of his malady. We are not willing to sanction and uphold an opinion which by its "malign influence" would deprive a much afflicted fellowbeing of the kind and necessary offices of humanity, break the tenderest ties of consanguinity, produce despondency and annihilate hope where despair is death — and sacrifice him the victim of folly and delusion, without a friend —

"To tear one terror from the grave
"And will not soothe, and cannot save" This is not fiction or fancy, for such would be, inevitably, the consequences, if the ~~adoption of the~~ opinion of the contagious nature of Phthisis pulmonalis were adopted. But I can point to many living monument of the fallacy of this opinion, How many do we see who have been deprived of the companion of every hour, the partners of their bosom, by this wasting disease, and yet retain their corporeal vigour undiminished; the healthy functions and energies of the system unimpaired (note 1st at the end of this Essay)

It is unnecessary that I should enter seperately into the minutiæ of the two principal forms of consumption, i.e, Ulceration of hepatized lungs and ulceration of tuberculated lungs In their progress they developes nearly the same train of symptoms - they are often found to coexist and terminate with equal fatality. - Of the first variety, it is sufficient for me to say, that it is occasionally, the consequence of pneumonic inflammation and Catarrhs occuring repeatedly in the same individual, more particularly if he be of intemperate habits and

indulge freely in the use of ardent spirits. — In a large majority of cases there is tubercular disorganization — Tubercles first present themselves in the form of small semi-transparent bodies, situated in the proper cellular texture of the lungs. They are at first about the size of a millet seed, almost colourless, but varying in appearance. During this first period of morbid action, the phenomena developed, present nothing more than the symptoms of Catarrh — giving rise to a difficulty in the diagnosis which time and the progress of the disease alone can remove. This shows us the necessity of paying always strict attention to what is commonly termed a cold — For though viewed with indifference, they are often followed by the most injurious consequences — Where the tubercles are but few they often exist, for some time before there are any indications of morbid action. They often appear interspersed through the whole substance of the lungs, but are usually found at its upper and posterior parts and frequently, they occur in clusters. In the state above mentioned they are solid and of a cartilaginous hardness; As they progress they increase in size and number, becoming yellow and opaque, affecting the substance of the lungs more and more

as their magnitude increases and giving rise to such symptoms as make us suspect, if not, be positively apprised of their existence. There is a cough either hard and dry or accompanied with expectoration of a colourless, ropy, and somewhat frothy fluid — The interruption to the free transmission of blood through the lungs which exists, occasions a rupture of some of the minute blood vessels of that very vascular organ, and a consequent haemoptysis when from any cause the force of the circulation is increased. Though with the aid of the microscope and the finest injections, the existence of bloodvessels cannot be perceived in tubercles; yet they are susceptable of inflammation, which terminates in the formation of vomicae or abscesses of more or less magnitude — These abscesses opening in the neighbouring bronchi are evacuated of their contents — the expectoration of thick purulent matter which follows this event, together with the accompanying fever affords a sure and unerring diagnosis — On the manner in which tubercles are formed and the causes from which they originate there has been much disputation, It has been maintained by some that they are deposited by a peculiar action of vessels, altogether distinct from inflammation, that their formation is un-

accompanied by inflammatory action, and that inflammation is the consequence, rather than the cause of tubercles, while it is the opinion of others that they are simply the result of a low degree of common inflammation, We think the latter opinion is more plausible because, we find them associated with the usual accompaniments of inflammation, and also because the evidences of their existence are often preceded by the ordinary symptoms of Catarrh or Peripneumony— It appears that small conglobate glands situated throughout the whole extent of the lungs, become enlarged; obstructed, indurated and inflamed and produce tubercles, This plainly illustrates the reason why they occur only in scrofulous habits—

The succession of phenomena which occur in phthisis varies in different cases—though sufficient uniformity may be observed to admit of precise detail— In its forming stage there is generally a troublesome short dry cough which is readily excited by muscular exertion—Sometimes the cough is not dry but accompanied with a spitting of frothy mucus, There occurs also, a sense of tightness across, and oppression, at the chest, stitches in the breast and sides, Impeded and hurried respiration on taking any consi-

derable exercise, some acceleration of pulse, foul tongue, and impaired appetite - These symptoms are generally observed by the patient and his friends with indefference. He still attends to his accustomed duties, regarding his complaint as a common cold, which may be easily removed; places himself under no restraint and omits taking such remedies and pursuing such a course as the crisis demands, till the complaint is too firmly fixed to be removed by their effects - But the occurrence of hæmoptysis which commonly succeeds these phenomena, soon reveals the hidden evil - Spitting of blood occurs at uncertain periods and in variable quantities - Sometimes unmixed florid frothy blood is spit up - at others, it is mixed with a viscid matter of a greenish colour and purulent appearance, It may be here necessary to remark that hæmoptysis is not necessarily followed by ulceration of the lungs - This was the opinion of Cullen and it is confirmed by the experience of our illustrious countryman professor Potter, We are told by him that there is no more danger to be apprehended from hæmorrhage from the lungs, than from any other of the important viscera - Provided the patient is not predisposed to phthisis by scrofula or malconformation

of the chest — The experience of this distinguished individual would alone be sufficient to establish the fact in our mind — but we have had cases under our own cognizance which indisputably confirm the correctness of the position, only a few days since I saw a gentleman, who is a member of our state legislature from Frederick county, who has had seventeen different attacks of hæmoptysis and is now in perfect health — The disease advances by degrees The cough becomes still more troublesome and severe and the breathing more difficult — The emaciation and debility increase — There is a fixed pain in some part of the thorax, usually under the sternum, increased during a fit of coughing — The patient is at the same time often sensible of a pain in the side, which prevents him from lying easily on that side, and even when there is no pain the patient can always lie more easily on one side than the other — There is sometimes a difficulty of lying on the back, and the patient is often unable to expand the chest even in the slightest degree — These symptoms continue growing more agravated till at length they are succeeded by the unerring diagnostics, purulent expectoration and hectic fever — "The expectoration of a thick pus, generally in the form

"of globular lumps, of a straw colour, occasionally tinged with blood
"and always more or less mixed with mucus, is indeed the peculiar
"feature of this disease — but perhaps too much stress has been laid
"upon the necessity of distinguishing in pulmonic diseases, between
"the different kinds of expectorated matter; An extensive obser-
"vation of disease, will show that its appearance varies extreme-
"ly, not only in different individuals, but in the same indivi-
"duals in different days, and even different times of the day; and
"that its qualities may alter, without materially altering the
"danger; still less the nature of the disease — (Gregory's practice
page 428) — Expectorated mucus may possibly be mistaken
for pus and give suspicion of a confirmed phthisis where it does not
exist — The following experiments will always decide the question
whenever there is any doubt as to the nature of the matter ex-
pectorated — Let it be dissolved in sulphuric acid, and in
caustic liximum, and add pure water to each solution — If
there is a precipitate in both the matter experimented on is pus —
but if there is no precipitation in either it is certainly mucus,
place a little between two plates of glass and hold them be-
tween the eye and the sun and if it be pus, a bright halo

will be seen to surround it, resembling the spectrum — pus is of the colour and consistence of old cream, inodorous when cold but when warmed, of a peculiar smell, It is not easily diffused in cold water (which is one of the properties of mucus) but is easily so in warm water and remains so after cooling — Its specific gravity ~~is greater~~ is greater than that of mucus, of its chemical and constituent properties it is unnecessary for me to speak farther —

The peculiar character and cause of hectic fever is the next subject which requires our attention, It has given rise to a great variety of opinions among the most distinguished of the medical profession; Dr Cullen defined it to be a fever of a remittent form having an exacerbation twice every day; he considered it to be "a symptomatic fever — produced by the absorption of acrimony from abscess or ulcers, corrupting the fluids and debilitating the moving powers of the system" (Cullens first lines) The term acrimony as here applied, like some other general terms in medicine admits of no certain or well defined signification, and seems to carry with it a little of that mistery, in which our old authors were so fond of enveloping themselves — This absorption of acrimony appears to be a remnant of the rot-

ten excrescences of that splendid source of error, the humoral pathology (See note second). Dr Potter considers this fever to depend upon a peculiar irritation; the action of pus upon the nerves and doubts the existence of genuine hectic from any other cause, except this poison (Notes on Gregory) in opposition to the opinion entertained by Gregory that genuine hectic sometimes occurs without ulceration "as in delicate women who suckle their children too long; in children of weak habits and in adult men after confluent small-pox, or in the latter stages of diabetes— May not the interruption of the free admission of air into the lungs and the consequent prevention of its peculiar influence upon the system, which is so essential to its healthy condition have a great agency or influence in giving rise to continuing and increasing the attending symptoms of phthisis pulmonalis! That the abstraction of the support given to the economy, by the function of respiration in the healthy state may, to and is, in combination with other morbific agents, instrumental in agravating hectic symptoms, and producing wasting and death to phthisical patients; I contend to be a just inference, founded on the consideration of the very great im-

portance of the respiratory function, in the preservation of animal existence — That its free and uninterrupted exercise is essential to the healthy state of the animal economy, no one can doubt, and in most cases of phthisis a great proportion of the lungs is rendered unfit for the performance of their proper office in the last stages of the desease by ulceration, hepatization or both. The disorganization is sometimes so extensive that not more than a twentieth part of the lungs are in a condition to subserve the requirements of the system Authors generally describe hectic as a remittent fever — though it sometimes approaches to the intermittent form of fever — (See Dr Patters notes on Gregory) It has in many cases two exacerbations every day, the first occuring about noon, when a slight remission ensues about five in the afternoon, which is succeeded by another exacerbation gradually increasing untill after midnight, when a remission takes place, becoming more and more apparent as the morning advances, It is described by Gregory as having one exacerbation in the space of a day, which occurs between five and six in the afternoon attended with rigours, lasting about an hour, and succe-

ded by an increase in the quickness of the pulse, heat of the skin, thirst, general uneasiness and restlessness. The exacerbations generally terminate in perspiration; particularly in the last stage of the disease; sometimes very profuse, extending either over the whole body, or being confined to particular parts. These are called colliquative sweats - they are extremely debilitating and afford a striking characteristic of hectic fever - During these hectic symptoms, the urine is high coloured and deposits a brassy red sediment - The functions of the stomach are but little disordered, bowels, at first, unaffected, appetite unimpaired - the tongue appears clean the mouth is moist, with inconsiderable thirst, Notwithstanding these favourable symptoms, the emaciation and loss of muscular power proceeds rapidly to an extreme degree. The vessels of the adnata loose that redness which characterizes their healthy state and become of a pearly white - the fauces on the contrary acquire a preternatural redness and inflamed appearance, and in the last stage of the disease are beset with aphthae, the countenance looks dejected. In the morning the face is pale, but during the exacerbation, a florid circumscribed

redness appears on each cheek, commonly denominated the hectic flush - The pulse is rarely very quick, but almost always frequent; the skin is hot but not in proportion to the extraordinary frequency of the pulse, which says Gregory, averages about 120, but is frequently found as high as 144 for weeks together - In the begining of this fever there is generally costiveness, but as the disease advances, a diarrhea often comes on alternating at times with the colliquative sweats, and recurring frequently during the remainder of the disease - reducing the strength of the patient to an extreme degree - Any diminution of perspiration by the application of cold air increases the diarrhea, and on the contrary, a check to the diarrhea by opiates or astringents increases the perspiration -

A circumstance worthy of observation, is the slight derangement of the cerebral function which takes place in hectic fever, headache does not always occur - during the periods of exacerbation and is seldom present at other times - Delirium seldom supervenes except a few hours before the patients death, when it does come on, it generally continues till the occurrence of that event - but sometimes it does not happen

even at this period; the patient remaining sensible to the last moment of his existence — It is remarkable that a person labouring under this disease generally forms an erroneous judgement concerning the prospect of his recovery, being seldom apprehensive of any danger and often in the most advanced stage anticipating a speedy convalescence —

Gregory (page 430) tell us that there is a tendency in the last stages of Phthisis to an affection of the mucous membrane of the ileum — this, says Dr Potter, never attends Phthisis except in scrofulous habits — In such cases he has seen the other intestines, particularly the Colon, similarly affected — Symptoms sometimes occur in the progress of Phthisis which require a seperate notice — an accession of acute pleurisy or of inflammation of the peritoneal covering of the liver may take place Phthisis some times supervening upon, is complicated with ~~symptoms of~~ other diseases and in many instances the symptoms of such diseases correspond so closely to those of Phthisis as to require much discrimination in forming a correct judgement of the true nature of the case — There are certain morbid conditions of the larynx and trachea, and some ob-

sence affections of the heart and great vessels. Dropsy of the cellular membrane often occurs in this disease; Œdema of the feet and ankles, sometimes extending even to the legs and thighs, not uncommonly occur. Dr Potter mentions a case which he attended, where the symptoms of yellow fever (which was prevailing epidemically at the time) were developed in a person labouring under tubercular Phthisis. The first symptom which manifested itself was in the yellow appearance of the expectoration. Hectic fever and night sweats sometimes exist from the formation of calculi in the lungs. this occurred in our much lamented professor of Chemistry, the late Dr Deluetts. Symptoms of Phthisis, occasionally, alternate with mania but this is not of frequent occurrence.

The diagnosis of genuine or tubercular Phthisis is not generally attended with a great difficulty, though sometimes there are cases which are so doubtful in their character, as to baffle the skill of the most experienced observers. Abscesses following acute inflammation in the lungs, and chronic inflammation of the bronchia may be mistaken for it. A correct diagnosis is to be obtained chiefly by a knowledge of the constitution of the pa-

tient and his hereditary predispositions, a strict attention to the progress of the symptoms and their order of succession and by a careful examination of the thorax, The degree to which the ribs can be elevated must be ascertained — Percussion must be practised on different parts of the chest successively, as the clearness or dullness of the sound emitted affords a very correct indication of the degree to which consolidation of the lungs has gone — The stethoscope may be used, but even by the application of this instrument we cannot, in every case, ascertain the exact condition of the lungs — Of the advantages derivable from this instrument it does not become me to speak, being altogether inexperienced in its application — but the authority by which it has been recommended and the important aid said to have been obtained from its use, leave no doubt of its great utility — Even in the first stages, Phthisis is in every case to be considered as attended with much danger and where tubercles exist it is always hopeless — To determine with accuracy the time at which the disease will terminate is impossible — The patient sometimes lingers for a long time contrary to expectation and dies exhausted from the discharge of pus and colliquative sweats and diarrhea —

at other times life is suddenly extinguished by the accumulation of pus in the bronchia producing suffocation or by hemorrhage from the rupture of a bloodvessel eroded by ulceration - This termination by hemorrhage occurs but seldom - The impending danger is always to be judged of by the violence of the hectic symptoms, by the color of the expectoration - the degree of emaciation, debility and the colliquative sweats, and also by the œdema of the legs, aphthæ, and diarrhea - It has been very truly remarked by Dr Cullen (first lines) that from a certain degree of emaciation, debility, profuse sweat and diarrhea the patient never recovers, Pregnancy in many cases considerably retards the progress of Phthisis, but the termination afterwards is only hastened, supervening Mania has sometime ~~relieved~~ alleviated the symptoms - In many instances there are threatenings of the disease for several winters preceding its attack - Dr Potter says he has seen cases where the primary symptoms existed for many years - The developement of Phthisical symptoms are often checked by the return of Spring or mild weather - from this it was very rationally infered that the removal of the patient to a warm climate during the winter and Spring might be attended with

with the most beneficial results. This has accordingly been practiced and though expectation has not been fully realized, yet it has in some measure. And therefore it may be recommended where the circumstances of the patient will admit of its being put in execution. Catarrhal Phthisis will sometimes be cured by it. and tubercular Phthisis checked in its progress and suspended for a long time. Dr Potter mentions a case which occurred in the practice of Dr Rush in which the disease was suspended for 3½ years by the patient going twice to the West Indies during that time. and another in his own practice where the disease was suspended 10 years. He advises that the patient should remain several years, if practicable, in the climate to which he removed. or perhaps take up his residence there permanently. But it is only in the first stage of the disease that we would advise a change of climate (and here we would most strenuously urge its adoption. The futility of a removal of the patient to a warmer climate in the advanced stages of this disease must be apparent to all. The slender prospect of benefit to be derived from this change cannot compensate for the disadvantages and injurious effects of the absence from friends. the want of comforts which belong only to a permanent residence and perhaps of proper me

dical advice, privations which cannot be endured in this most unmanageable of diseases — It has been supposed by some that the motion of a vessel in sailing had a beneficial influence on the disease The air to which the consumptive remove should be dry, temperate, and not subject to sudden changes — Dr Potter supposes the Eastern states to be the worst climate known for Phthisical patients on account of the frequent vicissitudes of temperature which take place — ~~Thy~~ Many situations have been recommended by the European writers as a proper residence for the Phthisical — Thomas recommends the interior of England — With Dr Calhoun we should suppose the moist air of England quite unfavourable — Dr Gregory says the south of Europe, particularly the climate of Naples holds out many advantages — Dr Calhoun seems to entertain a favourable opinion of the southern parts of Mexico as being less variable than any other climate in the world — Florida seems to offer many advantages to our citizens — Dr Potter recommends St Augustine above all other places — When the patients circumstances will not admit the trial of a foreign climate, he should avoid the air of a large town, loaded as it is with smoke and effluvia, and should select a situation in the country sheltered from cold bleak winds,

where the air is free and pure and the soil is gravelly — he should avoid a sedentary life and a close application to study or business, take daily moderate exercise, either in a carriage or on horseback particularly the latter — and engage in whatever amusements are best calculated to divert the mind from any unpleasant train of thought — Exercise on horseback has been used too indiscriminately in all cases — where there is high action or much inflammation it will have the most injurious effects and therefore cannot be employed untill this state is removed — The diet should be such as is calculated to afford strength and nourishment to the system without producing febrile excitement — For this purpose farinaceous preparations of all kinds, milk, poached eggs, light puddings, jellies, animal broths, fish (particularly shell fish oysters lobsters &c) may be used and where the symptoms are but trifling a portion of plainly dressed animal food may also be allowed — but all highly seasoned dishes, and all fermented liquors, particularly spirituous must be avoided — Milk has itself been recommended as a remedy in Phthisis, It is almost useless to say its efficacy does not depend upon any specific action — From its being easy of digestion — sufficiently nutricious and not too stimu-

lating, we suppose it to be peculiarly adapted to constitute the great-
er part of the diet of phthisical patients. Its use must be regulated
very much by the patients former habits of taking it. Womens milk and
then asses have been prefered. but cows milk (particularly after standing
and being rid of a portion of its cream), and butter-milk will answer.

When hemoptysis has occured and when the symptoms war-
rant the belief that inflamatory action is going on in the lungs;
measures of more activity must be pursued. bleeding from the arm
has been recommended as putting an immediate stop to the pro-
gress of the disease. but this is too often a vain hope. and bloodlet-
ting must therefore be resorted to with caution and a due consider-
ation of the habit of body in which Phthisis occurs. Where the
pulse is hard and contracted and the pain and cough urgent
blood must of course be drawn from the arm, and repeated ac-
cording to the strength of the habit and the severity of the symptoms
(Gregory page 486) Whenever there is fixed pain, difficulty of breathing,
heat of skin, dry hard troublesome cough, restlessness, hard and con-
tracted pulse, bloodletting is imperiously called for. These symptoms
commonly appear in the first stage of the disease, when we have
in view a resolution of inflammation, and to fulfill this indication

bloodletting may always be employed with advantage, but when the disease has proceeded to the ulcerative state, attended with much debility and night sweats, bloodletting is seldom admissible. Wherever the disease assumed an inflammatory form, Dr Rush advocated active depletion - In compliance with the antiphlogistic system gentle laxatives may be employed if the bowels are costive. Where there is much febrile heat, diaphoretics may be employed, such as the saline mixtures and the nitrate of potash - attention to the state of the skin is very necessary in this disease, as in all others in which the lungs are implicated, an uniform temperature of the body should be promoted by warm clothing, flannel next to the skin &c - In some cases it is necessary to confine the patient to a apartment of a regulated temperature - From the effects of supervening mania or pregnancy in this disease, it was very justly inferred that extensive drains on the surface of the body would be of considerable efficacy. They have accordingly been employed, and with the most favourable results. Issues or setons may be inserted in the side, or between the scapulae, or in the groins hams &c - Blisters may be employed - topical bleeding - leeching and cupping may also be resorted to, for the purpose of removing inflammation from the lungs - and preventing the sup-

puration of tubercles - Whenever there is cough and tightness across the chest, blisters will be useful - They may be repeatedly applied and with great advantage through the whole course of the disease Expectorants and demulcents are useful as palliatives - liquorice, linseed, gum arabic, and gum tragacanth and these may be united with Tartarium - scilla - colchicum - Ipecacuanha, and the preparations of Opium in order to allay irritation - The inhalation of factitious airs has been highly extolled, but is not now believed to be of any benefit - Dr Brickton of Petersburgh highly recommends the inhalation of the vapours of tar heated over a spirit-lamp - Digitalis purpurea has been much employed and highly extolled in the treatment of phthisis - Some have even thought it to approximate to a specific - but its powers have been extravagantly overrated - and it is now regarded only as a palliative - Various opinions have been entertained concerning the modus operandi of this medicine, which we do not think it proper to notice more particularly here. Professor Baker advises it to be given only where the system is in an intermediate state of action, neither too high or too low - Dr Murray says that when it is given to that extent in which it reduces the velocity and force of the circulation, it proves useful by counteracting that state of increased

action which prevails in the incipient stage and by diminishing the rapidity of the circulation through the lungs, it may facilitate the removal of the local affection. It has been recommended in all stages of the disease. The hydrocyanic acid has been employed with the same results as digitalis. Arsenic has also been employed with the best effect. Dr Potter thinks he derived the most essential benefit from the use of this remedy in a case which came under his care.
With respect to the use of mercury. Dr Rush thought he cured Phthisis by salivation. Where the disease arises from Catarrh, chronic pleuritis &c mercury may be employed with advantage, but where there is a scrofulous predisposition, it hastens the termination of the disease in death. Dr Potter says when the secretion from the lungs becomes so thick that it is with great difficulty expectorated, Calomel in small doses will give relief unless its use is contraindicated as above mentioned.
Opium is of great advantage in phthisis. It allays irritability, alleviates the cough and diarrhea and procures sleep. It should be given freely, particularly in the last stage of the disease, increasing the dose regularly, so as to ensure the patient its full benefit. It may be administered in combination with almond emulsion, chalk mixture, infusion of Catechu, or with Ether, subcarbonate of ammonia, and cam-

phor julep, according as cough, diarrhea or langour predominates when the diarrhea is particularly harrassing, injections of starch with laudanum will be required — When Opium produces disagreable effects from idiosyncracy — Lactucarium — Conium or Hyoscyamus may be used with good effects — In the early stages of the disease emetics have been recommended to be given often, except where pregnancy exists — Dr Potter thinks them to be of but little use — Sometimes they are indicated and then Sulphate of Copper — is most advisable either alone or in combination with the tartrite of antimony and ipecacuanha alternately — Balsams have been much used in the ulcerated stage of the disease, Balsam Copaiba — Canadensis and Tolutanum have been recommended to increase the secretion of the lungs, Myrrh has been employed in hectic fever — where it is unattended with much heat or thirst, or signs of much inflammatory action with considerable advantage, It may be given in the formula recommended by Dr Griffith — It becomes necessary in the confirmed stage to support the system by tonics — for this purpose Dr Gregory recommends, the Mistura ferri composita — in preference to the other remedies of this class — this however sometimes increases the febrile excitement and aggravates the cough and dyspnea — the Sulphate of Quinine may then be substi-

tuted - The Cinchona bark is also used in this stage of the disease, if the morning remissions are considerable and the noon exacerbations well marked it may be beneficial, otherwise it must prove prejudicial to the safety of the patient - Where a disposition to Phthisis has come on in consequence of any enfeebling evacuation, as a considerable abscess, fluor albus, and the like - Cinchona may prove serviceable if employed before inflammation takes place. Fresh subacid fruits although usually supposed to be laxative, are often useful in the diarrhea of hectics by their antiseptic quality - The aphthous sores which appear in the mouth of consumptive patients, should be washed with an infusion of Cinchona having a little Borate of soda dissolved in it - The lichen Islandicus has been much employed in this disease, but like all other remedies which have been thought almost specific, it has not stood the test of experience, Its beneficial effects depend upon its tonic and demulcent properties, Its tonic properties are very beneficial where there is simply a weakness of the lungs, as a demulcent it is superior to the mucilages, It may be employed with great benefit. It allays the tickling cough, relieves the oppressed breathing, mitigates the hectic symptoms - and at the same time invi-

gorates the digestive organs -- Such are the principal remedies which have been used in the treatment of Phthisis pulmonalis and I am sorry to conclude without enumerating one which can be relied on with much certainty, whether this is owing to the imperfection of our science or the absolutely incurable nature of the disease admits of some doubt = It is possible that the period may arrive when it will always be (as it now often is) checked in its forming stage - but that in the last stages of the disease it ever will be under the controul of medicine cannot be reasonably anticipated by anyone, Should any be so fortunate as to subdue the symptoms of the disease, by the means which have been pointed out in this dissertation or by others which may hereafter be known; it will be indispensably necessary to employ the regimen which has been recommended in the treatment ~~of this disease~~ for a considerable length of time after every symptom ~~of it~~ has disappeared, and the patient should be extremely cautious in returning to his former habits and manner of living — —

The limits to which this essay must necessarily be confined prevents me from entering farther into the minutiae of

this subject - I have endeavoured to be perspicuous as well as brief and to avoid useless digressions, I am sensible that some errors as well as omissions will be perceived - For the latter fault, I offer as an apology the hurry in which this essay was composed - but claiming no merit from it (indeed none can be assumed from the performance of an indispensable duty) I confidently rely upon that liberality which always accompanies real learning and solid abilities -

Note) 1st These remarks may perhaps appear out of place to some, I beg leave to state that they were not altogether directed towards the note of Dr Colhoun — Thomas practice third American edition from the fourth London says — "All over the Levant not only the natives but the physicians entertain the opinion that Phthisis is of a contagious nature, and in the Venetian states there is a law, I understand, which directs the cloathes and even furniture of those who have died of consumption to be burnt — page 417 —

Note) 2d For a full and satisfactory exposition of the fallacy of this opinion see an essay on Phthisis Pulmonalis by Dr Reid printed in London 1795 —

An
Inaugural Dissertation
on the
causes of Sudden Death, and the means
of preventing it
Submitted to the examination of
The Trustees and Medical Professors
of the
University of Maryland
on the fifth day of April 1833
for the Degree
of
Doctor of Medicine
By
William Henry Withington
of
Maryland

Death is the inevitable lot of all mankind, and life must unavoidably terminate in death, But there are few persons whose business, or whose conduct in life, do not render it a greater evil to themselves, and their families, ~~when~~ it takes place suddenly, than when it occurs after a predisposition and illness, To point out the principal causes of the sudden and unexpected extinction of life, and means of preventing it, shall be the subject of the following inquiry,

Death of course consists in the destruction of that peculiar organization of matter, or in its incapacity to vibrate with those impressions, which produce the motions and sensations of life, the causes which produce this incapacity in the matter of the human body, and thereby induce

sudden death, act with more force on those predisposed to death by a previous debility or disease, they appear to induce death by sudden destruction of ~~the sudden destruction of~~ the excitement of the system, from the excessive force of impressions or from the sudden abstration of them, whereby the system is rendered incapable of performing its natural offices, I shall now briefly enumerate the causes which by inducing the above changes in the system, bring on sudden death,

1. Extreme heat and extreme cold, both these act with most certainty upon old and unhealthy people, and hence it has been remarked that old people have been found dead in their beds after an extremely warm or cold night, and there are few Physicians of extensive practice who have not had patients

suddenly and unexpectedly snatched from their care, by extremes of heat and cold, fatal effects have likewise been observed when ~~when~~ heat and cold in their extremes suddenly follow each other, The rays of the sun however acting upon the head have produced death in the form of apoplexy — Certain matters contained in the air these are several of the gases, particularly the azote, the carbonic acid, to this may be added the malaria which exist in the atmosphere from the putrefaction of vegetable substances, the histories of yellow fever, and the late epidemic cholera, furnish many proofs of sudden death from this cause. As I am only endeavouring to relate facts, I hope I shall be excused from deciding on the question

(which appears to be so undecided) of the part of the system on which the gases and malaria mentioned primarily and chiefly act in producing death, some of them certainly act upon the body through the lungs, some of them ~~some of them~~ through the whole nervous system, through the medium of the sensorium, and some of them upon the sanguiferous system, through the medium of the stomac, I think it possible gases or malaria may produce death through all the passages that have been mentioned—

Electricity is often the cause of sudden death, the cause seems first to act on the nervous system, and other parts sympathizing and producing death—

Sudden and violent emotions of the mind such as anger joy or grief, may produce it Soldiers have been found among the slain in fields of battle, whose bodies have been found free from wounds, and death have been ascribed to the wind of cannon balls, is it not probable they were occasioned by the violent impression of terror on the system, as our professor of surgery has told us from a large ball nearly spent coming in contact with the individual and producing death without contusion &c.

Great bodily exertion in labour has sometimes suddenly destroyed life, fatigue or the reduction of the excitement of the system in marching more frequently

~~more frequently~~ produces sudden death if it be combined ~~if it be combined~~ with excessive heat, hence we find a number of instances of soldiers, expiring on public roads, from the combined effects of the rays of the sun, and great fatigue, falling upon their bodies. Great bodily pain has sometimes produced sudden death, the cholic sometimes kills by excessive pain. Mr Hunter I think relates an instance of the pain occasioned by the extirpation of a diseased testicle producing death and our Professor of Surgery relates a case of a patient of his fathers dying suddenly while on the operating table from pain and fright. In fevers sudden death is sometimes brought on by the inability of the

blood vessels to react, during the chilly fit, by convulsions, and by the extreme debility which follows the termination of a paroxysm of fever –

Metastases producing pressure of blood or water upon the brain inducing apoplexy sometimes produce sudden death –

Death is sometimes the result of sudden effusion of blood or water in the lungs, cold liquors received in the stomach when the body is preternaturally heated, by their sympathizing with the head heart or blood vessels, produce sudden death –

A profuse discharge of pus from the liver into the abdomen and into the thorax may produce sudden death –

Worms have destroyed life, especially in children, by exciting apoplexy or general convulsions.

The rupture of an aneurism in the large blood vessels near the heart will produce instantaneous death.

Sudden death may be produced by hæmorrhage or by parturition

Death often occurs suddenly from drowning external wounds and accidents, though such are not generally within the power of art —

turn over.

Means of Preventing Sudden Death.

To prevent death from the extremes of heat ~~and cold~~ cool drises, drinks and situations, should be suggested, as it frequently occurs during the night and during sleep in hot weather old, and infirm persons should be advised to lie on a straw bed or matthaf.

To prevent it from cold warm bed clothes should be prescribed and the feet kept warm.

The fatal affects of a stroke of the sun are to be prevented by gentle exercise and protecting the head with an umbrella light-hat &c.

During the weather which predispose to apoplexy, care should be taken to lessen the predisposition to it by a temperate diet, aperient

medicines, occasional bleeding, &c.
To prevent it from the gases that have been mentioned, places which are supposed to contain them, should not be entered, until a lighted candle has been placed in them, the the extinction of its light is a sign that it contains nitrous or carbonic acid gas.
The effects of miasma are to be prevented by avoiding the places which contain them, by chlorine, or fumigation, and by lessening the predisposition to be affected by them - by means of abstemious diet and aperient medicine &c -
There are scarcely any means of preventing death from

electricity, the remedies are such as might be used in any other severe injury.

The prevention of death from the violent motions of the brain, should be sought for in those books, which impress it with the necessity, of the subjection, of all its faculties, and operations, to the dictates of reason and religion, Labour and exertion disproportionate to the strength of the body should be carefully avoided.

The combined influence of heat and fatigue, upon life may be obviated by cordials, and avoiding too much cold water.

Death from extreme pain may be prevented by bleeding,

obium and antispasmodics.
Death in the chilly fit of fever should be prevented by warm drinks, warm external applications, friction, and the lancet, has been used with success by abstracting blood, it equalizes the circulation and relieves congestion.
From convulsions by remedies suited to the stage of disease, in which they occur; And from the debility which follows a paroxysm, by cordial medicines, drinks and aliments.
Sudden death in persons predisposed to it, from Epilepsy should be obviated by temperance, moderate exercise, aperients, occasional bleedings tranquility of mind, sleeping,

with the head a little elevated, and on a firm bed and avoiding ~~tight and avoiding tight~~ ligatures around the neck—

The sudden extinction of life by worms in the alimentary canal by producing convulsions, should be avoided by the usual antiphlogistic and anthelmintic remedies—

Sudden death from cold water taken into the stomach when the body is preternaturally heated, may be prevented by conducting off the heat of the body by plunging the hands and feet in cold water, or by washing the face with it, or as Doctor Rush advises

by grasping the vessel that contains the liquor with the hands - and in that way conduct off the heat of the body, and at the same time lessen the temperature of the water.

Death is sometimes produced by the sudden discharge of pus from the liver in the alimentary canal. When it is apprehended from this cause it should be if possible diverted externally by fomentations ~~by fomentations~~ poultices &c. Emetics which emulge bile from the liver would perhaps have some affect on pus contained in it, the duct which leads to the duodenum would possibly yield to an emetic.

Instantaneous death is sometimes produced by the bursting of an aneurism of one of the large arteries, It should be avoided from this cause by temperate diet, tranquility of mind, and body, frequent bleeding and the use of digitalis &c.

An
Inaugural Dissertation
on
Injuries of the Head,
Submitted to the inspection
of the Trustees, Provost & Medical Faculty
of the University of Maryland
by
Gustavus E. Wampler
of
Hanover, York County,
Pennsylvania
March 8th 1833

To

Nathan R Smith M. D.

Professor of Surgery in

the University of Maryland,

The scientific lecturer, skilful surgeon

and accomplished gentleman, this thesis

is humbly dedicated as a testimonial

of respect for his unwearied attention and

willingness of communication whilst

under his direction by the

Author

Injuries of the Head.

Among all the injuries which man in his every day walk is doomed to suffer, there are none which are more serious in their consequences, more ambiguous in their diagnosis and more difficult in their treatment than some of the injuries inflicted on that delicate and complicated part of the animal organization the Head. Complicated and delicate it truly is, composed of a thin superficial layer of tegumentary membrane covering a wide arrangement of flat & expanded collections of bone, which consist of two layers with an intervening diploe placed in the best possible manner to check the violence by which it is so frequently assailed by its convex form. Containing within its cavity one of the most delicate organs of the animal constitution, that which is the throne of all our knowledge, from which emanates all our plea-

sure & happiness, the deprivation of which would deprive us of all the enjoyment of society & doom us to linger out our existence, wreckless of futurity & level us with the beasts of the field. We also find within this vault three delicate membranes each possessing different degrees of organization, The first we intercept is a strong fibrous membrane which in the earlier months of existence sustained the whole volume of the brain, but in the course of time seperating & giving place to that process of ossification by which it is in future life more safely secured from external violence, by its seperation it has formed a very secure covering both external & internal by which the bones are nourished & sustained, there being an intimate connection of blood vessels between them, this membrane possesses but a slight share of sensibility as may be seen when the bone has been removed and pierced with the intention of giving vent to a fluid which may have collected beneath it & whose

whose exit is indispensable to the existence of the individual, & by experiments on the inferior animals.

The next is a serous membrane a complete sack. one of the most delicate in the human body, thrown over the substance of the brain without entering into the interstices, this possesses more vitality than the latter & more vascular than the former on account of the fluid which is constantly exuding from it to prevent adhesion & assist the motions of the brain; The last which is the most delicate, transparent extremely vascular, & very susceptible of inflamation, having its attachment to the substance of the brain, entering into its most inmost recesses. and consequently cannot be diseased without the brain with which it is in intimate contact participating in it, which will lead in a short time to the most serious consequences if not checked with boldness & promptness. Now after the short & imperfect sketch which we have given of the cranium & its contents, it will be evident to any

one not acquainted with the anatomy of this organ that it must be liable to take on disease in a great many different forms according to the manner in which the violence has been inflicted,

I shall therefore proceed to give a plain but concise account of these injuries. The subject at first view might appear trivial to treat off on such an important occasion as the present, but having seen in my limited observation, some very erroneous opinions formed and treatment pursued, in these injuries, I have not thought it too simple but that something might be gained by a careful investigation of the subject and therefore shall submit this dissertation to your honourable consideration,

Therefore for a more advantageous view of the subject I shall endeavour to treat of it under the form following heads, first Superficial wounds of the Head. Secondly Fractures of the Cranium. Thirdly Concussion,

and fourthly Compression,
The first class we shall treat of in the following order, those which produce contusion, those which lacerate the soft parts & punctures.

Contusions are generally produced by such accidents that inflict injury on a great surface and less violent than to produce laceration. These are generally easily distinguished by the tumour that arises and by the feel, but here some surgeons have been deceived by confounding it with a fracture, these differences it appears to me should hardly deceive a surgeon when he takes into consideration the symptoms, a mere collection of blood beneath the integuments would produce none of those unpleasant symptoms which are attendant upon a fracture of the cranium. Treatment, the treatment in such a case must be simple although there may be a considerable collection of blood, as the absorbent vessels in this part of the system appear more

capable of taking up a greater quantity than in any other region of the body. Such being the case it is only necessary to assist nature in accomplishing her laudible office which she is at all times willing to perform, and the best manner of accomplishing this is to put the antiphlogistic treatment into operation, by bleeding, purging of the saline kind, abstinence & quietude, after the removal of the hair which should always be done we must make use of stimulating applications & warm fomentations which always act better on the naked scalp. If these means should fail often they have been strenuously persevered in, it will be requisite in incise the tumour in the direction of the fibres and treat it as a simple incised wound,

2nd Lacerations, of the integuments were formerly thought to be impossible of adhesion, consequently were removed without the least ceriomony, but now it is ascertained that they

are more susceptible of adhesion than was formerly thought, therefore we should always make the attempt although at times it would not meet our satisfaction and some part of it slough it will seldom leave as large a scar as if it had been removed by the knife of the surgeon. The first thing that is requisite as in all other wounds is to stop the blood, and here it is more requisite to secure all the arteries as the cellular tissue is more dense in this part, as not to suffer the arteries to retract into their sheath or contract in diameter, as in other parts next remove all foreign substances from the wound and place the parts in near apposition as possible, to do this it will not be requisite to use the sutures to cobble up the wound, as was formerly thought necessary to keep parts in apposition, it has been ascertained by accurate observation, that they are the cause of so much irritation to the parts that they can be easily dispensed with and

the simple adhesive straps of the best quality substituted in its place, obviating all irritation & reapplied without the least disturbance of the wound. Sooner than to use the suture it would be preferable to draw the wound together by means of small locks of hair. Often this inflamation must be kept at bay, by means of cold applications to the parts and the antiphlogistic treatment strictly adhered to. I should remark that it will not be proper to close the wound so accurately as to prevent the escape of matter which will naturally form and insinuate itself over the whole scalp; giving rise to a tedious & debilitating discharges, by it is more difficult to produce adhesion when the pericranium is removed it be requisite to replace & keep it in contact by means of a well adjusted bandages —

3rd Punctures There are also wounds inflicted by means of some pointed instrument which does not incise but puncture,

being very liable to put on a high degree of inflammation and become tedious and alarming to both patient and practitioner, it will have a tendency to put the tendon upon the stretch, which will give rise to great pain & tension, the proper mode of procedure in such a case would be to cut a free incision in the direction of the fibres, & then treat it as a simple wound of those parts.

There is no part of the body where the cellular tissue is pierced that is more liable to give rise to a kind of Erysipelatous inflammation than this region, the tumour extends over the whole head and face, the skin appears of a yellowish cast, covered by small blisters, containing serum, pressure of the finger expels the inflamitory cast momentarily, it is not very painful to the touch, the eyelids and ears most generally participate in the tumefaction showing that the tendon has not been pierced as then the swelling would be more circumscribed

a feverish heat & thirst are its general accompani-
ments. the patient is restless has a quick pulse
nausea & great inclination to vomit. These symp-
toms are generally engrafted on a billious habit.
It has a very unfavourable aspect, but is not generally
attend with danger. the wound has not got a healthy
discharge while the fever continues but has none
of the appearance of internal injury. the scalp re-
maining adherent to the cranium, no complaint
of that tensive pain. nor is it accompanied by
that dull pain which betreaks injury within
Bleeding, lenient purges & the common febrif-
uge medicines in a short time dispel it.

There is a species of Erysipelatous inflamation
& swelling which happens often violence inflict-
ed on the brain but this is of a different kind
the febrile symptoms are higher, the pulse &
more frequent, the anxiety and restlessness more
exhausting, pain in the head severe and as
these are the general forerunners of matter

beneath the skull, there will be irregular chills which are attended by critical sweats without affording any relief to the patient, In the former case the inflamation appears generally on the second or third day whereas in the latter it does not appear for several days until the symptomatic fever has got to some height. In the simple the wound is erude & undigested, it has no marks of mischief, the pericranium remains adherent to the skull, in the latter the wound has not only a glossy, spongy & unhealthy appearance, but the pericranium in the neighbourhood seperates spontaneous from the bone. In fact one is an accident proceeding from a biliary habit. the other from injury done to the parts beneath the skull. The one is of very little trouble to the patient and generally ends well. the other implies great hazard & generally has a fatal termination —

Fractures of the cranium.

These were formerly divided into a great number of classes according to the shape & extent of the injury, but we shall be more limited in our division and make but two, first those which are mere solution without depression & second those which are complicated with depression.

1st Formerly it was the custom whenever there was supposed to be a fracture of the skull immediately to cut down & ascertain the fact Mr. Pott recommends in all cases where it is fully ascertained to be present, immediately to remove the bone to avoid all evil consequences, taking for granted that there are more lives lost by delay and suppuration than would be the case were the bone instantaneously removed, But we cannot agree with him when we see almost daily a fissure or a fracture attended with very trivial consequences and a modern rule of surgery is that the surgeon has no right to cut down

and probe as freely as he formerly did for his own satisfaction and gratification; but merely to notice the symptoms and act according,

2nd Here again we should not be to precipitate in our decision as the brain has an aptitude of suiting itself at times to somewhat a smaller spaces than it formerly occupied, In young children the bones contain a great degree of elasticity and may be restored to their natural position without the interference of the surgeon, But when there ones symptoms of pressure we should be decisive in our judgment, The most common form of fracture is that of a stellated form, it will not at all times be requisite to use the trephine, but merely to use a small saw as that of Hey's to saw off one of the angles & remove it, by that means we may remove the rest or merely raise, thereby obviating the pressure, it will not be requisite to use the trephine. If its use should be required we should make a crucial incision through the scalp to the bone & dissect it=

therefrom; it will not be proper to place the trephine immediately over the fracture, as it will increase the compression & impede the motion of the instrument, but as near to it as possible; we should be careful repeatedly to remove the trephine & use the director to ascertain if we have been making equal pressure on all sides as we might penetrate the dura mater when we had not mean penetrated the other side, Having reached the membranes on all sides we should remove the bone to give relief to the compression, we shall find the inner plate more extensively fractured than the exterior and often the cause of all the mischief being thinner & more brittle, Our next object will be to close the wound as closely as possible by means of adhesive straps and the uniting bandage; then to keep inflammation at by the antiphlagistic treatment,

Formerly there were contradictory opinions as to what part of the skull we were justifiable in applying the trephine, the Parietal bones being the most regular in their thickness were thought the only

part to which it could be applied with safety, when the sinuses and sutures it was thought altogether inexpedient, but necessity and experience have taught that it can be applied with safety if necessary. The longitudinal sinus was always avoided & is never practicable except when life or death depend upon it, the anterior inferior angle of the parietal bone where the middle artery of the brain passes either in a deep fossa or through an entire foramen was thought, but if we should divide the artery it would be capable of being included in a ligature, or be stopped by a dossil of lint if penetrating the bone. The frontal sinuses were a great dread but here it can also be accomplished by using a large trephine to remove the external plate & a smaller for the internal, the tables here not being in the same plane it would be dangerous to use the same to penetrate both as it would be impossible to change the direction of the instrument thereby penetrating the skull irregularly and liable to pene-

trating the Dura mater giving rise to a high degree of inflamation. Having shown that it has been performed in these places which are considered of the most hazardous, it will be evident that no part should deter the Surgeon when necessity calls upon him to relieve the sufferings of the distressed.

Concussion.

This may be caused by a variety of causes; it may be effected by blows or falls which directly strike the head on by those which give a general shock to the whole system. Concussion of the brain is a disturbance of its functions, which is checked in a great measure by the membrane which passes between the hemispheres.

Symptoms. It will not be necessary for me to give the whole catalogue of symptoms from that of a slight concussion to that which produces a fatal termination, but the most prominent and if a Surgeon is familiar with these they will be enough to guide him in a judicious practice. In a slight concus-

sion there will be a transient stunning, pain in the head, acceleration of the pulse, vertigo & sickness soon follows, but none of these symptoms are of long duration or dangerous, if evacuation be immediately resorted to. If the violence has been still more severe the functions of voluntary motion & all consciousness are suspended, eyes dilated, countenance pale, if reaction takes place the pulse becomes fluttering, breathing anxious, eyes contracted when exposed to the light, moving & restlessness, pulse becomes quick, nausea & vomiting there is no paralysis in this case — —

Treatment, this requires treatment similar to constitutional irritation, our first object should be to restore the nervous energy by means of stimulants, ammonia applied to the nose & lips, bathing the forehead with brandy, or vinegar & water, friction to the surface & warmth to the extremities, the patient should be placed in the supine posture for this is a species of deliquium, the bystanders should not be permitted to administer as is vulgar

by the custom before he can swallow. which is apt to produce suffocation, and extinguish the small remnant of animal life which may yet remain — Bleeding too is the first resort in common practice but it is a happy circumstance that they are not able to procure blood under these condition which would destroy all hopes of producing reaction and in that manner destroy the patient, When reaction has taken place we should raise the head of the patient to prevent too great & sudden rush of blood to the brain, We should then use the Lancet freely by extracting blood from a large orifice, to produce a sensible effect. the temporal arteries may be opened by applying cups we may extract blood more suddenly — at the same time cold applications should be applied to the head, ice is not proper as it increases the restlessness of the patient, cloths wrung out in cold water are more proper, the bowels should be attended to as they are want to become constipated, cathartics of the drastic character as

Colycinth, Gamboge, Jallap &c will by revulsion produce a determination to those organs & in a great measure relieve the affection of the head. a stimulating enema may be profitable. If the affection of the brain should become chronic great advantage will be derived from the application of a blister to the back of the neck, by the immediate application to the scalp they are liable to produce great irritation, and are justly abandoned, the extremities should be kept warm this is of great importance & can be easily accomplished, by means of the mustard bath, friction with pepper, stimulating liniment, the use of warm bricks or bottles of hot water applied to the feet.

Compression.

This is produced by any thing which diminishes the capacity of the cranium, it is a species of apoplexy; and may be produced by any of the three following causes, first. By Fracture & depression, second. Effusion produced by a rupture of the vessels.

Third. By suppuration and the accumulation of pus this may occur months & much often the infliction of the injury. The first of these causes need not be treated of in this place as we have already given a description and the treatment when commenting on fractures of the skull, I might mention again that both these occurrences may happen, viz. fracture & depression though the symptoms not serious enough to warrant the operation.

2nd Effusion. may be produced by any violence which acts with sufficient force to produce a rupture of the sinuses or some other vessel of the dura mater in such a case an effusion of blood upon this membrane would be considerable and if it should happen to take place between this membrane and the base of the skull it would necessarily prove fatal, as there would be no opportunity of evacuating it; and also press upon a very important part of the organ. If the extravasation should be between the dura mater and tunica

arachnoides, or in the interstices it will be very extensive; but if it should happen in the substance of the brain, or in the ventricles it will be limited. If a slight blow be given the patient will be merely stunned from which he shortly recovers without experiencing any very serious consequences, It may be distinguished from concussion as the extravasation is not so instantaneous; generally the patient rises, runs a few steps then falls into that state which will be hereafter described; whereas in concussion the patient remains insensible from which he does not recover until the proper means are employed—

From compression of the skull it can be very readily distinguished as there life appears to instantly extinct, . With that of effusion of serum we will not have the least difficulty in deciding as the effusion will not take place untie the lapse of three or four days, and there being no previous inflammation of the dura mater to cause the effusion.

By an attentive observation to the above sev

marks a surgeon will not have the least difficulty in distinguishing the kind of violence that has been inflicted, (thereby relieve him of a great burthen of anxiety under which he must naturally by forming an unsatisfactory diagnosis and the reproach which he richly deserves) and persue a treatment which will seldom fail him if he adopt it with firmness & alacrity.

It sometimes happens that the symptoms of concussion and compression are so intimately blended that we will not be able to distinguish them distinctly. here then there will be no choice but will have to be entirely governed by the symptoms. —

Symptoms, when the extravasation is slight. there is mere drowsiness and headache, as it progresses the symptoms increase and there is paralysis but not complete as hemiplegia, paraplegia, or merely those of a few muscles as those of the tongue, Respiration is considerably embarrassed, pulse preternaturally slow and sluggish, this is not the case in the first instance for there it is frequent, one or both pupils dilated;

light does not cause them to contract, breathing becomes laborious and stertorous, no restlessness as in concussion, all animal functions are suspended, the feces and urine pass off involuntary. An injury upon one side of the head is just as liable to produce extravasation of the opposite as on that which received the blow, this is effected by what is called the counter strokes it is produced by a blow being struck with a small body moving swiftly so as to produce a slight injury on the part first struck; but the force radiating and passing over the head again converging and producing the greater amount of injury immediately opposite, true the bones will not be so liable to be injured, but the membranes and the substance of the brain will have to endure all the violence inflicted as was very satisfactorily exemplified in a preparation which was exhibited to the class during the session by Professor Smith, where a boy had received a stroke with the butt end of a whip, he ran a few steps, then fell senseless, symptoms of extravasation made their appearance, the necessary treatment be-

ing put in operation, it proved ineffectual, he died, on examination the principal part of the injury was found opposite to where the blow had been inflicted, in such a case a surgeon would be very much embarrassed in an operation, although these symptoms may be sufficient to convince a surgeon that there is extravasation and dangerous compression, if they are not to urgent we should put our medical treatment into operation.

Treatment, our first object should be to bleed freely to diminish the quantity of the circulating fluid to prevent inflamation, and further compression which is the cause of the blood not having a free impression through the brain. We should bleed locally by opening the temporal artery & applying cups to the orifice, cold applications to head is a useful expedient in order to repel the fluid from the head, it will be proper to raise the head to favour the escape of blood, great attention should be paid to the extremities to keep them of an equal temperature, thereby inviting the blood from the head. By the administration of drastic cathartics

such as Allay, Polygonum we may in a great measure aff-
ect in reducing the powers of the circulation. Dry cuppings
as revulsives. When all these means have been carried to
their full extent, together with rest both of body and mind,
and the symptoms do not yield, we will find our dernier
resort to be the trephine to remove a portion of the
skull and give vent to the fluid effused. Here the
surgeon is met with a great difficulty, he knows not
whether it is immediately beneath the cranium upon
the dura mater, between the dura mater & tunica arach-
noides, in the ventricles or deep in the substance of the
brain, or whether it has collected on the opposite side
of the head caused by the counter stroke, in addition
on to these he will be embarrassed as to what part of
the cranium to apply it. The rule is however is to ap-
ply it to or near the part where there are any symp-
toms of external violence, having perforated the bone
as above recommended our next object will be to
favour the escape of the fluid, portion of which will
immediately flow; we should not be too officious in our

deavouring to hasten the escape of all the fluid immediately, but place the patient in a position to favour it, & permit the pulsations of the brain to discharge it which will be very effectually accomplished. Having all these appearances to ensure success he may have the misfortune to find that the extravasation he sought if not under the portion he perforated, he will be forced to make another perforation in the vicinity or be compelled to make a counter opening expecting to find it on the opposite side of the head, provided he should find on removing the bone to find the dura mater protrude so as to give evidence of blood beneath, Surgeon recommend to puncture the membrane carefully and give vent to it, but such would be a doubtful case as the extravasation would be over a great surface and the removal of it would be impossible, if the effusion should be still deeper our hope of success would be more slender, soon terminating fatally, Mr. Abernethy has ascertained when the effusion is upon the Dura mater the bone will not bleed on being sawed and owing to the continuity of the vessels being ruptured,

If we should be so fortunate as to remove the blood our treatment will not stop here; but a strict antiphlogistic plan of treatment will still be requisite, rest should be enjoined and perfect tranquillity of mind.

Suppuration.

When a blow has been inflicted so as not to produce immediate concussion or not so severe as to cause instant extravasation, it will be very liable to produce inflamation and suppuration of the brain and its membranes so as within a few days or it may even be extended to even weeks or months, to produce a collection of pus, which will give rise to compression finally requiring an operation.

Symptoms, they will develop themselves in a gradual but almost fatal manner, they will be all those which have been mentioned when speaking of extravasation of blood with addition of what will be gained by the external appearances of the head, immediately over the suppuration there will be a puffy, circumscribed tumour and

a spontaneous seperation of the pericranium showing that the communication between the internal and external membranes which takes place by minute vessels is interrupted. If the scalp should be wounded the edges will loose their healthy appearance and become pale & flabby, instead of healthy pus a thin gleety matter is discharged with the pericranium removed for a considerable distance from the wound.

Treatment in such a case will be similar to that mentioned above for extravasation and equally as energetic, if the head should be inclined to chillness it would not be proper as in the former case to use cold applications but warm fomentation on the contrary will be indicated. If all these remedies should fail we have got but one more resort to flee to viz. the trephine, but success in these cases are still less to be expected than in the former as there is already a morbid state of the brain and even disorganization of its membranes, should we be so fortunate as to relieve our patient we shall have another state

of the brain to guard against Hernia Cerebri, which is regarded by some as a protrusion of cellular tissue engorged with blood, by some a peculiar growth of the brain and by others to be the brain itself this may be increased by a morbid vascularity and inflamation; and as the brain protrudes more blood will be required to fill up the vacuit and if suffered to progress will destroy the patient. Therefore some contrivance must be employed to prevent its further escape and act as a barier in place of the dura mater, returning it would be impossible as it would cause death by compression — Dr N. Smith was in the habit of taking a pewter plate hammering it thin and of such a shape as to suit the convexity of the head, one great objection to this made is that it cannot be adapted with perfect precision, another is that it is too cumbersome which could not be endured, the head being already in a very sensative state which would be certainly increased — Dr N. R. Smith recommends the application of sev-

enal layer of paste board previously moistened and applied in succession in that manner they can be exactly moulded to the form of the head preferable on account of its lightness & accuracy of adaptations, which should be kept constantly applied with a thin layer of lint intervening by means of a gentle pressure until the wound has perfectly cicatrized & all symptoms of protrusion subsided.

Jamque opus exegi